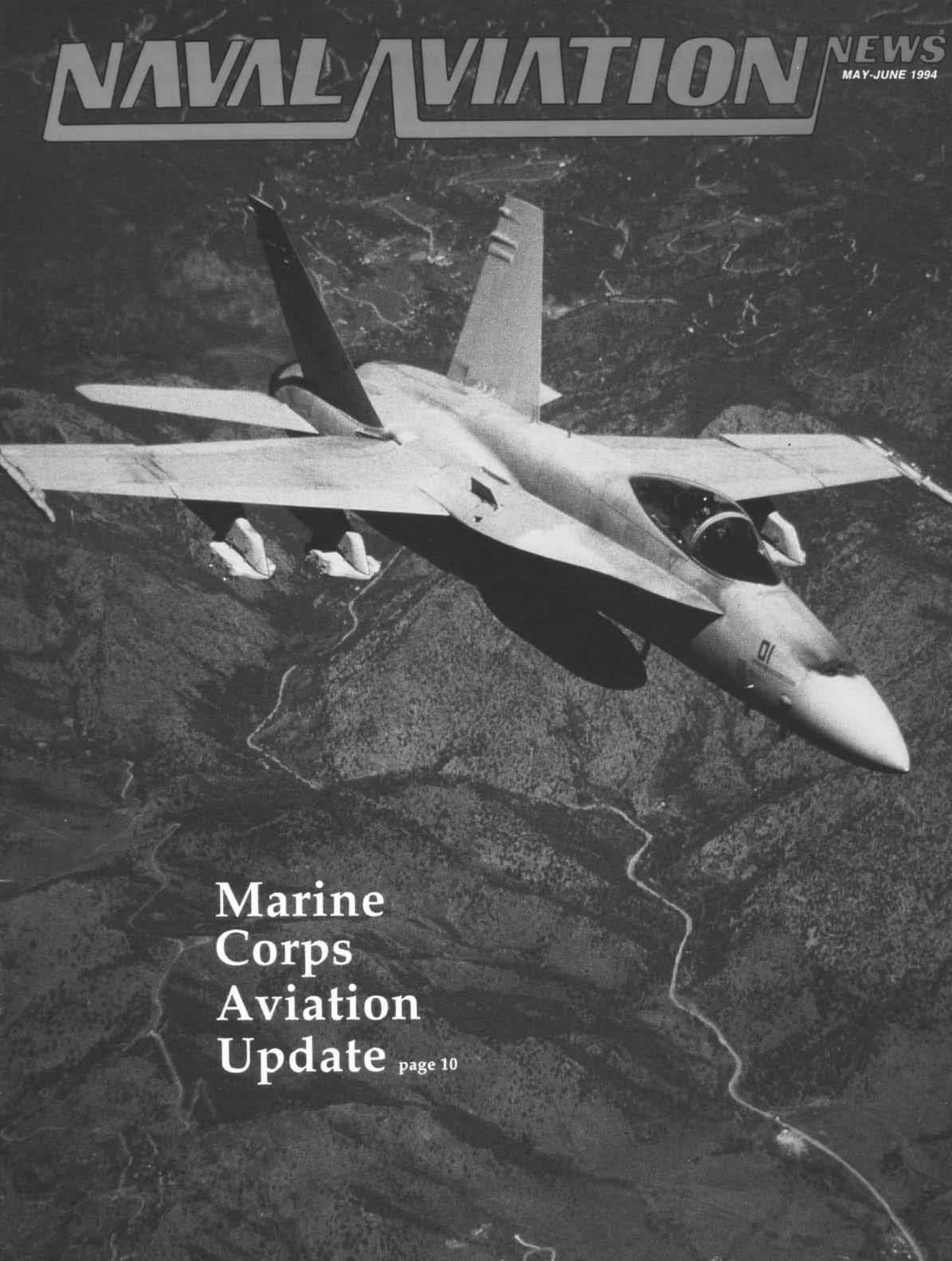
NAVAL AVIATION NEWS
MAY-JUNE 1994



Marine Corps Aviation Update

page 10

NAVAL AVIATION NEWS

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Features

Departments

COVERS—Front: An FA-18A *Hornet* of reserve squadron VMFA-321 flies over the target range at NAS Fallon, Nev., during active duty training (PH2 Bruce Trombecky). Back: A crew member of *Theodore Roosevelt* (CVN 71) receives a "Welcome Home!" after the carrier's return from a six-month Med cruise (PH2 J. Bivera/PH1 M. Flynn).

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By RAdm. Brent M. Bennitt, Director, Air Warfare

Professional, Dedicated and Focused

"We are short of money, so we must start to think." This often-repeated quotation is from Lord Rutherford, the British nuclear physicist and Nobel Prize winner who discovered the atom. This phrase has particular relevance to today's military. Our budget reductions are staggering, yet commitments remain constant at best. Today, the Navy is engaged in Bosnia, Southern Iraq, Northern Iraq and recently finished assisting with troop removal in Somalia. We are also conducting embargo enforcement and ship intercept operations in the Red Sea, Arabian Gulf, Adriatic Sea, Haiti and closely monitoring the situation in North Korea.

In order to cope effectively with the challenge of today's fiscal environment, we must be innovative in how we use our scarce assets. The key to innovation and optimizing our resources is cooperation within the naval service and with the Air Force and Army. Fortunately, we recognized early the advantages of such cooperation. As articulated in "... From the Sea," our Navy/Marine Corps team is placing far greater emphasis on joint and combined operations as we seek to blend our unique capabilities with those of the other services in meeting our future security challenges.

Within the naval service we have put forth a concerted effort to identify new and relevant force options. We have integrated some Marine tactical air squadrons into Navy carrier air wings. This has helped fill the decks in the absence of the retiring A-6 *Intruder*. We have fielded new force packages in our deployed units, such as the Special Marine Air-Ground Task Force on *Theodore Roosevelt* (CVN 71). The cooperation required to make these initiatives work is greater than that required in the recent past, and more will be required in the future as we pursue joint solutions. In our quest for efficiency, common, mutually supportive solutions to tactical challenges spell relevance to our nation's security posture.

JO2 Bobby Jones

The complex littoral environment on which we are focused has furthered the close working relationship between the Navy and Marine Corps. Our requirements become more harmonious as we address the need for responsive battlefield support. In that vein, the V-22 has become one of our highest priority programs. The V-22 is the medium-lift alternative of choice designed to meet the amphibious assault and land maneuver warfare needs of the Marine Corps, long-range operational needs of the U.S. Special Operations Command and future strike rescue/logistics needs of the Navy. Programmed improvements to the AV-8B and AH-1W are needed to support battlefield interdiction. The need for an effective night targeting capability on these platforms was highlighted in Desert Storm.

We are now in the throes of developing FYs 1996-2001 budget. As I mentioned, the reductions forecast are indeed staggering. Although it is too early to make any predictions, these reductions could put some of our planned improvements under severe pressure. This will impose even greater challenges to our operators. If we are forced to delay or do without planned upgrades to aircraft, our assets will have to be managed ever more skillfully to get the most from them.

However, our biggest task as we reduce the size of our defense structure is to make sure that our naval service remains the most dedicated and professional in the world. At times, it seems as though the world is changing faster than we can keep pace. Navy and Marine Corps aviation will ensure we remain focused on our mission and in the vanguard, setting a steady course while dealing with change, so that we remain an effective fighting force well into the next century.

Abraham Lincoln (CVN 72) PH1 David Cummings

Osborn

Super Stallion Saga

A CH-53E *Super Stallion* launched from an LPH with a crew of five for a night vision goggle (NVG) training flight which was to include formation work with another CH-53E. Maintenance personnel asked the helicopter aircraft commander (HAC) to perform a single point performance check (SPPC) during the flight. This entails verifying certain engine and aircraft performance characteristics at a specified altitude.

The HAC briefed the crew that the SPPC would be conducted before joining a second aircraft for the formation phase of the flight. Weather was about 200 feet broken with 10 miles visibility. The entire crew wore NVGs.

Once airborne, the helo proceeded toward its assigned sector to perform the SPPC. Outbound from the ship, the copilot reported the *Super Stallion* was leaving 300 for 500 feet. This was the aircraft's last transmission.

When it was determined the helo was lost, search efforts began, a 2-3 second burst of signal flares was sighted but no follow-up contact made, and an oil slick was found. Next morning, the copilot's body was discovered and pieces of wreckage were collected. The other four members of the crew were lost at sea.

Grampaw Pettibone says:

Mystery of mysteries! We'll never know what really happened, but it's most likely the *Super Stallion* crashed into the sea hard—and at high speed—based on the condition of portions of the helo and crew gear which were found.

Why did the helo crash? Spatial disorientation, most likely. Contrary to the weather forecast, there was dense fog in the operating area. Investigators think the CH-53E entered the unexpected fog just about the time the SPPC was to begin. There was no indication of engine or control failure.

During an SPPC, the pilots split the flight controls between them while doing the check. The HAC usually controls the collective and speed control levers while the copilot has the rudder pedals, the cyclic and the responsibility for obstacle clearance.

Could be the sudden entrance into the fog messed up their concentration and crew coordination. No tellin' the effect of the NVGs. And at 500 feet, there's not much room to recover from an unusual attitude.

Investigators figured the flares might have been set off by one of the crewmen before he disappeared.

About SPPCs. The performance charts provide SPPC data at sea level, 500, 1,000, 2,000, 3,000-foot increments up to 10,000 feet. Most pilots prefer to do the checks at the lowest possible altitude, but usually not below 1,000 feet. It's a safety margin, gents, and one that may have saved this aircraft and crew. If they've got to be done at night, Ole Gramps recommends setting up at no less than 1,000 feet.

Not much you can do about unexpected fog—except to expect it, no matter what the forecasters tell you, especially over water.

Orion Agony

A P-3C *Orion* (#2) launched late at night from NAS West Coast to relieve another P-3C (#1) already on station con-

ducting an antisubmarine warfare exercise with other battle group ships and aircraft. Weather in the area consisted of broken clouds and isolated rainshowers. Aircraft #1's autopilot was acting up, causing an additional workload on the pilots, plus the *Orion* was in and out of icing conditions at about 3,000 feet.

Orion #2 cruised toward the rendezvous at 21,000 feet with FACSFAC (Fleet Air Control and Surveillance Facility) communicating with the P-3s and tracking their positions on radar. The second P-3 began a descent toward the first's position, intending to execute a "tactical swap," relieving #1, and taking over the MP (maritime patrol) mission in the exercise.

At 0203, #1 and #2 established communications and #2 was cleared to descend to 3,500 feet. *Orion* #1 was holding 2,700 feet.

At 0206, #2 was heard to say, "Right below us." Instantly after that, #1 said, "Affirmative." Then #1 stated he had a TACAN A/A (tactical air navigation air-to-air mode) lock-on with a reading of 3.5 miles, which was acknowledged by #2.

At 0207, #1 stated that it had been a long night for his aircraft. He added he had been unable to loiter an engine except for two hours and had used engine anti-ice most of the night.

Still in a descent, #2 reported on station for the MP at 0208. Two minutes later, #2 acknowledged a transmission from another unit, the last recorded from #2 by the aircraft carrier involved in the exercise. Between 0211 and 0212, #1 transmitted a message to a *Seahawk* helicopter working in the area. This was the last one noted by the carrier for P-3C #1.

FACSFAC noted that #1's altitude had increased from 2,700 to 3,000 feet. Between 0213 and 0214, a fiery explosion was witnessed by several units. The P-3s had collided in midair. A total of 27 personnel were on both aircraft. There were no survivors.

Grampaw Pettibone says:

This horrible accident proves the sky can become fatally crowded even when there aren't many aircraft around. Investigators figure that #1 lost situational awareness at a critical time in the tactical swap, which led to its climbing as #2 was descending.

The plane commander in #1 occupied either the pilot or copilot seat for at least 7 of the 9.1 hours flown prior to the collision, so fatigue very likely was a villain in this tragedy.

The night was extremely dark and the scattered cloud layers called for extra vigilance, especially to avoid icing conditions. Continuous altitude changes of plus or minus 200 feet indicated that #1 was flying without that malfunctioning autopilot. A sonobuoy barrier had been deployed by #1 to prosecute a possible contact, adding to the workload, shortly before the crash.

Ole Gramps can only remind all hands that Naval Aviation can be a grueling, unforgiving business at times, whether you're alert or dead tired. Sometimes a few feet don't matter—other times they are vital to survival. You just can't ever let your guard down.

Midairs like this are extremely rare, but even one of 'em is far, far too many.

Robert C. Osborn, illustrator of Grampaw Pettibone, Dilbert the Pilot and Spoiler the Mechanic, is retiring after more than 51 years of drawing this column in Naval Aviation News. See the July-August 1994 issue for our tribute to the artist's dedicated service to Naval Aviation.

Marine Corps Aviator General Selects

Eight active duty aviators and two reserves have been selected for General Officer: five active duty to Brigadier General, three active duty to Major General and two reserve duty (one to Brigadier and one to Major General). The new active duty Brigadiers and their billets at selection are: **William L. Nyland**, Chief of Staff, 2d Marine Aircraft Wing; **Joseph T. Anderson**, Executive Assistant to Director of Tactical Systems, Office of the Secretary of Defense; **Earl B. Hailston**, Commanding Officer, MAG-31; **Bruce B. Knutson, Jr.**, Commanding Officer, MAWTS-1; and **Robert Magnus**, Head, Plans Programs and Budgeting (APP), HQMC. The active duty Major General selectees are: **Terrence R. Dake**, Assistant Deputy Chief of Staff for Aviation, HQMC; **Thomas L. Wilkerson**, Assistant Deputy Chief of Staff for Plans, Programs and Operations (Plans), HQMC; and **John E. Rhodes**, Deputy Commander, Marine Forces, Atlantic. Selected for Reserve Major General: **Bobby G. Hollingsworth**, Commanding General 4th FSSG; and for Reserve Brigadier General: **Kevin P. Kuklok**, Deputy Group Commander, 4th Marine Aircraft Wing.

Thanks to LCdr. Rick Burgess for his contributions to "Airscoop."

New Inertial/ GPS Nav System Delivered to Navy

Litton's Guidance & Control Systems Division, Woodland Hills, Calif., has delivered to the Navy the first units of a new aircraft navigation system that combines in one lightweight package high-accuracy laser gyro sensors and a precise Global Positioning System (GPS) satellite signal receiver. The Litton system, called Global Positioning Inertial Navigation Assembly (GINA), is the first to integrate these two complementary navigation capabilities into a single weapons replaceable assembly for a U.S. military aircraft. Designated LN-100G by Litton and AN/ASN-166 by the Navy, it is a version of the company's advanced laser gyro inertial navigation system chosen for the U.S. Air Force F-22 and the U.S. Army's AH-64 *Longbow Apache* and RAH-66 *Comanche* helicopters.

RAdm. Bien Takes Over Naval Space Command

On 31 January, RAdm. Lyle G. Bien became the ninth Commander, Naval Space Command, when he relieved RAdm. Leonard N. Oden. RAdm. Bien reported from the Joint Staff in the Pentagon. His command tours were with VF-114 and Carrier Air Wing 15.

VFA-86 Pilot Saves FA-18

Lt. Tim Taylor saved his aircraft after it caught fire during an approach for landing aboard *America* (CV 66) 2 February. Taylor safely completed a single-engine landing even though his wingman, Capt. Tim Barrow, USMC, confirmed blistering paint and scorching around the engine compartment. The squadron returned to its home port following a deployment with *America* to the Mediterranean and Red seas and the Indian Ocean.

Tomcat Crashes in Adriatic

An F-14 and an FA-18 from *Saratoga* (CV 60) collided during a routine training flight 12 February. Both *Tomcat* crewmen ejected before the aircraft crashed 4.5 miles southeast of Brindisi, Italy, while attempting to divert. The FA-18 landed safely at Brindisi and the F-14's crewmen were rescued by a helicopter from the cruiser *Vicksburg* (CG 69).

Osprey Gets Iced

V-22 number 2 has completed several hours of artificial icing tests staged from the Naval Air Warfare Center, Patuxent River, Md., and Duluth, Minn., to verify the design of the engine inlet in icing conditions and the anti-icing/deicing capability of a parting strip on the leading edges of the tilt-rotor's blades, and to examine wing leading-edge icing characteristics. The aircraft will fly some events with nacelles tilted 60-75 degrees.

Sixth Wasp-class Named

Bonhomme Richard is the name selected for the sixth *Wasp*-class LHD authorized by Congress. The ship will carry on the distinguished name of John Paul Jones' ship, most recently used (albeit spelled *Bon Homme Richard*) by CVA 31, an *Essex*-class aircraft carrier that saw extensive combat action during the Korean and Vietnamese conflicts.

FRS Consolidations Continue in 1994

With the passage of the 1994 defense budget, the Navy is proceeding with more consolidations of fleet readiness squadrons (FRS), the units that train personnel to operate and maintain the aircraft they will use in their fleet squadrons.

Within most aircraft communities, an FRS was in operation on each coast to provide their respective fleets with trained personnel. With the reductions in fleet squadrons as part of the defense cutback, the reduced demand is allowing the Navy to achieve economies by consolidating FRSs on one coast or the other.

F-14 training is consolidating at Fighter Squadron (VF) 101, NAS Oceana, Va.; the West Coast FRS, VF-124, NAS Miramar, Calif., will be

disestablished by September 1994. Similarly, Carrier Airborne Early Warning Squadron (VAW) 110 at Miramar will be disestablished by September 1994, with its training role assumed by the East Coast E-2/C-2 FRS, VAW-120.

Moving in the other direction is the consolidation of S-3 training with Sea Control Squadron (VS) 41, NAS North Island, Calif., and the disestablishment of VS-27, NAS Cecil Field, Fla. Similarly, the East Coast A-6 FRS, Attack Squadron (VA) 42, is being disestablished by September 1994, with VA-128 assuming all A-6 training at NAS Whidbey Island, Wash.

Last year, when Patrol Squadron (VP) 31 was disestablished at NAS Moffett Field, Calif., P-3 training was centralized at NAS Jacksonville, Fla., with VP-30. H-3 training was concentrated at Helicopter Antisubmarine Squadron 1 at Jacksonville, with Helicopter Combat Support Squadron (HC) 1 at NAS North Island shut down in April 1994. HC-16, NAS Pensacola, Fla., also slated for disestablishment in 1994, gave up its role as H-1 FRS to Marine Helicopter Training Squadron 303, MCAS Camp Pendleton, Calif.

F-117N Proposal Submitted to Navy

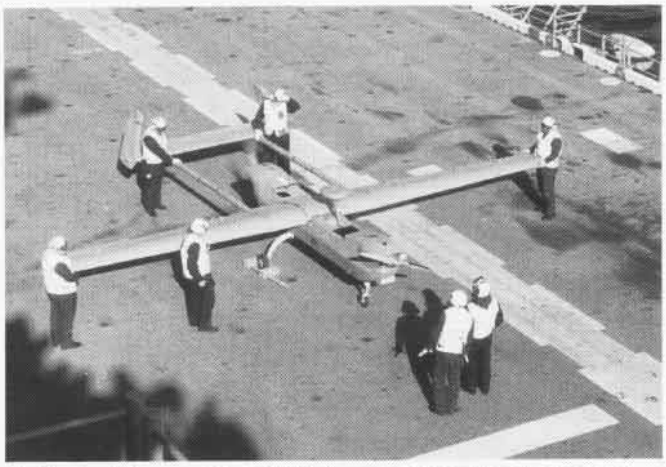
Lockheed Advanced Development Co. has submitted a new proposal for an afterburning, carrier-capable version of the F-117, which would yield production aircraft within five years and possibly replace the A-6. The aircraft would have a General Electric F414 engine, the same as the FA-18E/F, with afterburner. Also included was an advanced radar/infrared suite, which claims to provide an all-weather, air-to-ground and an air-to-air-missile capability.

Corps ACP Offered

Aviation continuation pay (ACP) is offered to three types of USMC aviators this year: AV-8B pilots, EA-6B aviators and FA-18 naval flight officers. To receive this pay, aviators must: Be entitled to ACP. Be at the rank of major or below. Be qualified for operational flying duty. Have completed at least 6 but not more than 13 years of active duty. Agree to remain on active duty for 2 years or to complete 14 years of commissioned service—whichever is shorter. Have finished any active duty service commitment from undergraduate aviator training. Be recommended by their commanding officers for retention. All applicatons must be submitted to Headquarters (MMOA-2) before 1 October 1994.

Navy Lakehurst Tests UAV

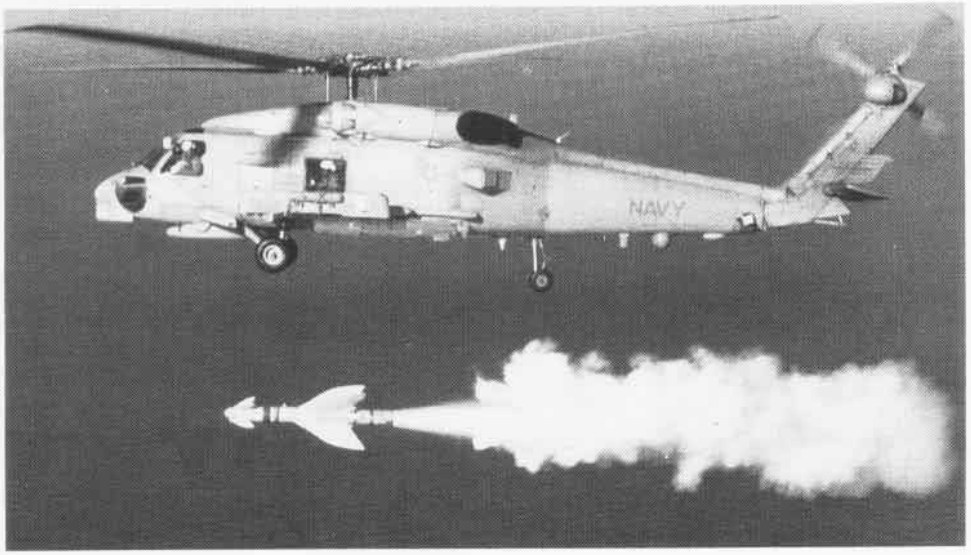
The Navy Lakehurst Unmanned Aerial Vehicle (UAV) team recently participated in a shipboard demonstration of the U.S. Army and Marine Corps Joint Tactical Unmanned Aerial Vehicle. UAVs have the capability to provide visual reconnaissance to support amphibious landings, battle damage assessment, over-the-horizon targeting and electronic countermeasures. The Joint Tactical UAV looks like an airplane and weighs roughly 1,200 pounds with a 30-foot wingspan. It can be launched by engaging the vehicle's tailhook into an arresting gear pendant, which is positioned across the deck. The Naval Air Systems Command, Washington, D.C., tasked Lakehurst to provide support in the areas of system safety, shipboard compatibility, launch and recovery and shipboard certification.



Joint tactical Unmanned Aerial Vehicle undergoes testing aboard Essex (LHD-2) in San Diego, Calif.

HSL-48 Det 10 Sets East Coast First

Detachment 10 of Helicopter Antisubmarine Squadron Light (HSL) 48 became the first East Coast detachment to be certified to load the Penguin antiship missile and will also be the first to deploy with the SH-60B Block I Upgrade.



SH-60B LAMPS launching Penguin missile.

FA-18E/F Wing and Fuel Cells Pass Tests

Materials used in the new *Hornet*'s fuel cells and wing skin panels have proven their survivability in two successful live fire tests conducted at the U.S. Navy's Weapons Survivability Laboratory, China Lake, Calif. The first test demonstrated the ability of new polyurethane fuel cells in combination with other damage control materials to withstand large armor-piercing rounds typical of antiaircraft threats. The new materials controlled leakage from the fuel tank within rates that could be tolerated if ingested by the *Hornet*'s engines. The second test found the composite inner wing panel, under load, to be as survivable as the proven wing panels on operational FA-18s.

JO1 M. Ivaskewitz

C-20G Gulfstream IV

Second C-20G Arrives

The Naval Air Reserve received the second of four new C-20G *Gulfstream IV* cargo jets during a rollout ceremony at the Gulfstream Aerospace Facility, Savannah, Ga., 7 March. The Air Reserve plans to use the new aircraft for passengers and cargo lifts. The first C-20G was delivered 4 February 1994 to NAS Patuxent River, Md., for a month of testing. Both aircraft will be assigned to VR-48, NAF Washington, D.C., and have the capability to handle 26 passengers, three pallets of cargo or a combination of both. A total of four aircraft will be delivered to the Navy and one to the Marine Corps.

Atlantic Fleet Type Wings Renamed

Effective 1 September 1993, most of the type wings in the Atlantic were redesignated to reflect their fleet assignment and mirror a recently completed reorganization of wings in the Pacific Fleet:

Old Name	New Name
Commander Medium Attack Wing 1	Commander Attack Wing, Atlantic
Commander Fighter Wing 1	Commander Fighter Wing, Atlantic
Commander Light Attack Wing 1	Commander Strike Fighter Wing, Atlantic
Commander Sea Strike Wing 1	Commander Sea Control Wing, Atlantic
Commander Airborne Early Warning Wing 12	Commander Airborne Early Warning Wing, Atlantic
Commander Helicopter Antisubmarine Wing 1	Commander Helicopter Antisubmarine Wing,Atlantic
Commander Helicopter Antisubmarine Light Wing 1	Commander Helicopter Antisubmarine Light Wing, Atlantic
Commander Helicopter Tactical Wing 1	Commander Helicopter Tactical Wing, Atlantic

Note: The two Atlantic patrol wings, Commander Patrol Wing 5 and Commander Patrol Wing 11, were not redesignated.

LASC Integrates Naval Programs

Lockheed Aeronautical Systems Company (LASC) has integrated all company programs aimed at naval or maritime surveillance missions in a move to increase innovation and responsiveness to the varied requirements of the company's worldwide customer base. Tom Burbage, a former Navy test pilot and head of LASC's A/F-X program, has been named Vice President and General Manager, Navy Programs, and will oversee all P-3, S-3, naval tactical aircraft, maritime surveillance and airborne early warning programs.

NAS Moffett Field Disestablishment Set

The disestablishment ceremony for NAS Moffett Field, Calif., has been set for 1 July. The historic event will be held on Shenandoah Plaza aboard the air station at 1000. The ceremony will transfer the 1,500-acre base to the NASA Ames Research Center, which will then become the landlord for the federal activities remaining. Established 12 April 1933 and named for RAdm. W. A. Moffett, the Navy's original Chief, Bureau of Aeronautics, Moffett Field has served the country for 61 years and through four wars.

VP-26 P-3s Launch First Operational Mavericks

On 28 January, two P-3Cs, part of a coordinated exercise, successfully launched the first AGM-65F Maverick missiles from an operational P-3. The weapon is an infrared air-to-surface missile.

First Female Naval Aviator Astronaut to Deploy

In December 1994, LCdr. Wendy B. Lawrence will be aboard space shuttle *Columbia* as a mission specialist when it is launched. She became the first regular Navy woman Naval Aviator chosen for the astronaut program on 31 March 1992 after competing with 2,054 male and female applicants. Only 19 were selected and only 3 women. Lawrence is a helicopter pilot and a graduate of the Naval Academy, where she also taught physics after earning a master's degree in ocean engineering from the Massachusetts Institute of Technology. Her father, retired VAdm. William P. Lawrence, is a former Naval Academy superintendent and presently the President of the Association of Naval Aviation.

Aviator Flag News

The President has nominated **RAdm. Arthur K. Cebrowski** for appointment to the grade of Vice Admiral and assignment as Director, Space and Electronic Warfare, N6, Office of the Chief of Naval Operations, in the Pentagon. RAdm. Cebrowski is currently serving as Commander, Carrier Group 6, Mayport, Fla.

Final AOCS Class Graduates

Aviation Officer Candidate (AOC) School Class 02-94 graduated and commissioned its last Ensigns 11 March, ending the nearly four-decade-old AOC program. There were 17 AOCs and two NAVCADs (Naval Aviation Cadets) in the graduating class. The first full class of AOCs began their training in 1955 and since then, 40,000 officers have received their commissions through the program. The school has been consolidated with Officer Candidate School and will remain at NAS Pensacola, Fla.

Sea Stallion Goes Down During Exercise, Killing 1

A CH-53D from HMH-363 crashed 12 March near Yosemite National Park while conducting a cargo transport mission at the Mountain Warfare Training Center. Copilot Lt. James Amature, USMC, of New York City, was killed while four other crew members were injured and airlifted to Washoe Medical Center, Reno, Nev., for treatment.

No More Cats from Grumman

The Grumman Corporation, maker of a long line of distinguished naval combat aircraft for over 60 years, announced in November 1993 that it was no longer going to manufacture combat aircraft. The company will concentrate in the future on sophisticated avionics systems.

Grumman is famous for its "Cat" series of carrier-based fighters, beginning with the FF, F2F and F3F biplanes and continuing with the F4F *Wildcat*, F6F *Hellcat*, F7F *Tigercat*, F8F *Bearcat*, F9F *Panther* and *Cougar*, XF10F *Jaguar*, F11F *Tiger* and F-14 *Tomcat*. Grumman also made a variety of other successful naval aircraft, including the J2F *Duck*, JRF *Goose*, J4F *Widgeon*, UF (HU-16) *Albatross*, AF *Guardian*, S-2 *Tracker*, C-1 *Trader*, E-1 *Tracer*, E-2 *Hawkeye*, C-2 *Greyhound*, A-6 *Intruder* and EA-6B *Prowler*.

JAST Plan Unveiled

The Department of Defense Joint Advanced Strike Technology (JAST) program has scheduled its first concept exploration.contracts to be awarded in May. JAST then plans to mature the technologies that are shown to provide future affordable joint tactical aircraft and/or systems. A flight demonstrator would follow towards the end of the decade.

HMH-463 Sends CH-53s to Cambodia for POW/MIA Search

Marine Heavy Helicopter Squadron (HMH) 463, based in Kaneohe Bay, Hawaii, recently sent three CH-53 *Sea Stallion* helicopters and 45 Marines to participate in Joint Task Force-Full Accounting (JTF-FA) in Cambodia. The three aircraft provided support by transporting JTF-FA search teams into areas unreachable by foot or ground vehicles. The aircraft and crew spent 36 days in Cambodia during the mission. (See *NANews*, Jan-Feb 94.)

LCdr. Wendy Lawrence

John Rossino

A U.S. Customs Service P-3 airborne early warning aircraft.

Modified P-3 Demonstrates AAW

A U.S. Customs Service P-3 *Orion* airborne early warning (AEW) aircraft has been modified to demonstrate the enhancement that airborne cooperative capability (CEC) equipment provides the Navy to conduct antiair warfare (AAW) in the future. The aircraft, modified by Lockheed Aeronautical Systems Company, will be used in a series of exercises to demonstrate the ability of an airborne platform to provide over-the-horizon range coverage for shipboard sensors, as well as act as link between surface, airborne and land-based components engaged in military operations. The CEC program is being funded through the Navy Program Executive Office, Theater Air Defense, commanded by RAdm. John T. Hood. The technical approach was proposed and is being directed by Johns Hopkins University's Applied Physics Laboratory, the Navy's designated Technical Direction Agent for the program.

Modifications to the aircraft included the addition of a CEC equipment set consisting of a data distribution system, a cooperative engagement processor with two new work stations and a first-of-its-kind active aperture antenna installed under the bomb bay. Also, upgrades were made to the current surveillance radar so that it will emulate selected functions of the AN/APS-145 radar. The aircraft is one of four P-3s originally modified by Lockheed to an AEW configuration, distinguished by the 24-foot rotodome antenna on top of the aircraft.

PacFlt Wing Reorganization Completed

Effective 1 October 1993, Commander Naval Air Force, U.S. Pacific Fleet, completed its wing reorganization, which resulted in the disestablishment of 4 flag-level functional wings and the creation of 9 type wings in their place. The type wings, which in most cases mirror their counterparts in the Atlantic Fleet, are commanded by captains. The reorganization, approved by the Chief of Naval Operations, came about in line with the down-sizing of the Navy and the need to reduce staffs and flag officer billets and streamline the force organization.

Two functional wings remain in the Pacific Fleet: Commander Patrol Wings, Pacific, which moved 1 July 1993 from NAS Moffett Field, Calif., to NAS Barbers Point, Hawaii, and Commander Fleet Air, Western Pacific, NAF Atsugi, Japan. Of the patrol type wings, Commander Patrol Wing 2 was disestablished 8 June 1993; Commander Patrol Wing 10 prepared for move to NAS Whidbey Island, Wash., and Commander Patrol Wing 1 remained under Commander Fleet Air, Western Pacific.

The disestablishment of Commander Medium Attack Tactical Electronic Warfare Wing, Pacific; the reorganization of Commander Strike Fighter Wing, Pacific, from a functional wing into a type wing; and the establishments of Commander Attack Wing, Pacific; Commander Electronic Wing, Pacific; Commander Sea Control Wing, Pacific; and Commander Helicopter Antisubmarine Light Wing, Pacific, were described in the May-Jun and Jul-Aug 93 issues of *Naval Aviation News*. The remainder of the changes are described below.

ComFitAEW-WingPac Splits

Commander Fighter Airborne Early Warning, Pacific (ComFitAEWWingPac), was disestablished at NAS Miramar, Calif., 30 September 1993, with RAdm. Paul W. Parcells as its last commander. The wing had recently served as functional wing over the Pacific Fleet's F-14 and E-2 squadrons, as well as adversary Fighter Squadron 126. Just before its demise, the two type wings that would replace it were established. Commander Fighter Wing, Pacific, with Capt. D. M. Chop commanding; and Commander Airborne Early Warning Wing, Pacific, commanded by Capt. M. R. Cooper, were both established 1 August 1993 at Miramar.

F-14 Crashes in Pacific; 2 Rescued

A VF-11 *Tomcat* crashed 22 February approximately 900 miles southwest of San Diego, Calif., while operating off *Carl Vinson* (CVN 70). Both crewmen received minor injuries and were rescued after a half-hour by an SH-60F from HS-8.

ComASWWing-Pac Completes Split

Commander Antisubmarine Warfare Wing, Pacific (ComASWWingPac), was disestablished 30 September 1993, at NAS North Island, Calif., with RAdm. D. W. Baird as its last commander. As the Navy's largest functional wing, ComASWWingPac exercised command over the Pacific Fleet's S-3, H-3, H-2, H-60, H-46, H-53, C-2, T-39 and C-12 aircraft based at North Island. During 1993, the wing gradually split into four type wings. Commander Sea Control Wing, Pacific, was first, establishing 22 April 1993 as commander

of the S-3 squadrons. Commander Helicopter Antisubmarine Light Wing, Pacific, followed 5 May 1993, controlling the SH-60B and SH-2F squadrons. On 1 July 1993, Commander Helicopter Antisubmarine Wing, Pacific (commanded by Capt. R. E. Tate), and Commander Helicopter Tactical Wing, Pacific (Capt. J. R. Mader commanding), were established at North Island, completing the distribution of ComASWWingPac assets. Fleet Logistics Support Squadron 30, formerly under ComASWWingPac, was transferred to Commander Airborne Early Warning Wing, Pacific.

Disestablished ...

VA-145 Swordsmen

A 13 October 1993 ceremony at NAS Whidbey Island, Wash., marked the disestablishment (officially 1 October) of Attack Squadron (VA) 145 after over 43 years of active service. Cdr. Dave "Roy" Rogers was the last CO of the *Swordsmen*.

VA-145 started out as VA-702, a reserve TBM squadron established at NAS Dallas, Texas, 1 December 1949. Called up 20 July 1950 for active duty in the Korean War, the squadron moved to San Diego, Calif., and was equipped with AD-2/4Q *Skyraiders*. Deploying to the war zone on board *Boxer* (CV 21) with Carrier Air Group (CVG) 101 in March 1951, the *Rustlers*, as VA-702 was known, conducted their first missions over Korea on 27 March. During six 30-day periods on the line, the squadron dropped over 70 tons of bombs on the enemy. The *Rustlers* returned to the war zone with AD-4/4L aircraft on board *Kearsarge* (CVA 33) in August 1952. Just before its return to home port, VA-702 was redesignated VA-145 4 February 1953. (CVG-101 became CVG-14 on the same date.)

VA-145 moved to NAS Miramar, Calif., in March 1953 and transitioned to the AD-4/4B, giving the squadron a nuclear weapons capability. Changing nicknames to the *Swordsmen* in 1954, the squadron deployed to WestPac in June 1955 on board *Boxer* (CVA 21), transitioning to the AD-6 (A-1H) upon return in February 1956. From 1957 through 1963, VA-145 made five WestPac deployments on board *Hornet* (CVA 12), *Ranger* (CVA 61), *Lexington* (CVA 16) and *Constellation* (CVA 64).

The 1964 cruise aboard *Constellation* with A-1H/J *Skyraiders* had the *Swordsmen* flying rescue combat air patrols over Laos and Vietnam. On 5 August 1964, following North Vietnamese attacks on U.S. destroyers on patrol in the Gulf of Tonkin, VA-145 participated in the first U.S. air strikes against North Vietnam, attacking torpedo boats and other naval targets. A VA-145 pilot, Ltjg. Richard Sather, became the first Naval Aviator to lose his life in the Vietnam War.

VA-145 made two more cruises to the war zone with its *Skyraiders* during 1965-67 on board *Ranger* with CVW-14 and *Intrepid* (CVS 11) with CVW-10, specializing in rescue combat air patrol missions. During the first cruise, the squadron lost three aircraft to enemy fire; the pilot of one, Ltjg. Dieter Dengler, was awarded the Navy Cross for his escape from a prison camp in Laos after five months of captivity. During the second cruise, VA-145 assisted in the rescue of 14 downed flyers.

The *Swordsmen* entered the jet age in 1968 with a move to NAS Whidbey Island, Wash., and transition to the all-weather A-6A/B *Intruder*. In January 1969, the squadron joined CVW-9 on board *Enterprise* (CVAN 65) for a war cruise (delayed en route by the disastrous fire that struck the carrier). VA-145 made two more war cruises with CVW-2 on board *Ranger* with A-6A/C aircraft on the first and A-6A/Bs and KA-6Ds on the second. The squadron led the first massive laser-guided bombing attack on North Vietnam, a strike which destroyed 14 bridges in three hours on 15 January 1973. The *Swordsmen* never lost an A-6 to enemy action over Vietnam.

From 1974 to 1983, VA-145 made five deployments to the Western Pacific and Indian oceans with CVW-2 on board *Ranger*. The squadron traded its A-6As for A-6Es in September 1976 and upgraded to the A-6E TRAM (target recognition and multisensor) version in November 1981. The *Swordsmen* made a cruise on board *Kitty Hawk* (CV 63) in 1984 before returning to *Ranger* in 1985, deploying to the northern and western Pacific in August 1986. VA-145 operated in the North Pacific for two months in 1987, its last cruise with KA-6D tankers.

Returning to the Indian Ocean aboard *Ranger* in July 1987, VA-145 provided support for Operation Nimble Archer, retaliatory strikes by Navy surface ships against an Iranian oil platform in the Persian Gulf. After this cruise, VA-145 acquired the A-6E SWIP (systems weapons integration program) version, improving its Harpoon missile capability and giving the squadron the capability to launch SLAM (standoff land attack), HARM (high-speed anti-radiation) and Maverick missiles. VA-145 took the SWIP version on its first deployment to WestPac and the Indian Ocean in February 1989 on board *Ranger*.

VA-145 entered combat in its third war 17 January 1991, flying from *Ranger* in support of Operation Desert Storm strikes against Iraqi forces. The squadron fired the first Naval Aviation shot of the war—a HARM missile—which was also the first HARM fired in combat by an A-6. During the 43-day war, the *Swordsmen* delivered over 2-million pounds of ordnance, destroying a large number of targets, including 33 tanks and 41 naval vessels.

The *Swordsmen* commenced their final deployment in August 1992, back to the Indian Ocean on board *Ranger*. After three months of support to Operation Southern Watch, enforcing the no-fly zone over southern Iraq, VA-145 supported Operation Restore Hope with sorties over Somalia to discourage hostilities against U.S. relief efforts. VA-145 returned to sea one last time in May 1993 to ride *Constellation* (CV 64) for two months around Cape Horn as she returned to San Diego following completion of the Service Life Extension Program.

Swordsmen A-6 Intruders overfly Ranger (CV 61).

The FA-18A/C provides multimission offensive and antiair capability, while the FA-18D provides offensive and defensive antiair capability, tactical reconnaissance and tactical air control capability.

Marine Corps Aviation Update

By Lt. Col. Dave Darrah and HQMC Aviation Staff

"The new direction of the Navy and Marine Corps team, both active and reserve, is to provide the nation with Naval expeditionary forces operating forward from the sea."

"...From the Sea"

The Navy and Marine Corps white paper, "...From the Sea," reflects the shift in the National Security Strategy from a focus on global threat to a focus on regional challenges and opportunities. This new strategy, coupled with force reductions and legislated base closures and realignments, provides the impetus for this Marine Corps Aviation Update.

The planned Marine Corps aviation force levels and equipment have been developed to support Marine Air-Ground Task Force (MAGTF) requirements into the 21st century. Working within fiscal guidance, aviation plan-

ners and programmers have developed an aviation force structure that is supportable within the FY 94-95 budget end-strength ceilings. The fluid nature of the global and domestic changes will require Marine Aviation to continue detailed annual analyses of the total force.

Sizing the Force

The Marine Corps active and reserve personnel structure will stabilize at 174,000 and 42,000 Marines, respectively. Marine Aviation manpower assets of 41,000+ active and 8,000 Marine reserve force are distributed to three active and one reserve Marine Aircraft Wings (MAW). Today's 11 active and 4 reserve Marine Aircraft Groups will be reduced to 10 active and 4 reserve by FY 95.

Long the mainstay of American overseas presence posture, U.S. carrier battle groups will continue to play essential roles. However, as the size of the carrier force and numbers of Navy squadrons declines, Marine Tactical Aircraft (TACAIR) squadrons will continue to integrate into Navy carrier air wings and fill the gaps per the June 1993 Memorandum of Agreement.

TACAIR integration demonstrates the Marine Corps' flexibility to operate from aircraft carriers or as the expeditionary land-based extension of Naval Aviation. Our agreement with the Navy has three FA-18 squadrons and one EA-6B squadron integrated into Navy carrier air wings over the long term. Periodically, two additional FA-18C squadrons may be integrated during the Navy's transition to the FA-18E/F. Two reserve squadrons also will be available for the Naval Reserve Carrier Air Wing integration.

Recapitalization

The Marine Corps' Aviation Plan focuses on keeping the Aviation Combat Element (ACE) effective and responsive to the MAGTF commander across the spectrum of operational capabilities. To this end, we continue to concentrate on equipment and aircraft oriented toward littoral expeditionary operations, third world instability, terrorism and the threat of regional war. As budgets decline, we will continue to "neck down" the number of type/model/series (T/M/S) aircraft. Through the prudent procurement of new weapon systems, upgrading existing platforms with modern technology and replacing obsolete systems, we will field a credible, affordable, reliable and survivable fighting force. This concept, known as "recapitalization," ensures readiness for the future.

Our "neck-down" philosophy saves money by using common aircraft spare parts, simplifying technical specifications and minimizing support equipment variations, and reducing aircrew and maintenance training requirements. In concert, the Base Realignment and Closure (BRAC) process will reduce infrastructure costs by closing or realigning some of

CH-53D/RH-53D Sea Stallion and CH-53E Super Stallion missions: assault transport of heavy weapons, equipment and supplies; transport of troops; and support for mobile forward arming and refueling points.

Sizing the Force

Marine Aviation (Fiscally Constrained)

Total Force

15/4* x 12 Med-Lift (CH-46E)	16/4* x 12 FA-18
4 x 8 Med-Lift (CH-53D)	7 x 20 AV-8B
6/2* x 18 AH-1W	4 x 5 EA-6B
6/2* x 9 UH-1N	3/2* x 12 KC-130

Active Duty/*Reserve Squadrons x No. of Aircraft

CH-46E Sea Knight mission: combat assault troop transport and transport of supplies and equipment.

AV-8B Harrier mission: close-air support, night attack/radar capability and helicopter escort with expeditionary basing flexibility.

AV-8B Remanufacture

- Radar/Night Attack Fuselage/408A Engine
- APG-65 Radar
- NAVFLIR (Navigation Forward Looking Infra-red) Detector
- New wiring to improve electrical system reliability
- Increased Chaff/Flare Capability
- Hydraulic System Hardening
- NVGs/Night Lighting Improvements
- Digital Moving Map
- Advanced Munitions Upgrades
- Resets Airframe Life to O Flight Hours

The AV-8B Remanufacture Program will upgrade 73 "day attack" Harriers to the current radar/night attack production standard at a cost of only 77% of a new aircraft.

our installations. This will allow us to match force structure with support assets, freeing up resources to support recapitalization. Down-sizing our force and right-sizing our infrastructure confirms our commitment to long-term readiness of our force.

FY-94 Marine Aviation Laydown

Over the next three years, the decisions from the 1991 and 1993 BRAC process will affect many active and reserve air stations and facilities. As bases close or down-size, the tenant squadrons and units on these bases will be relocated to other bases throughout the Corps. The listing below cites the current location of Marine Aviation units.

West Coast

Air-Ground Combat Center, 29 Palms, CA

Air-Gnd Spt Element

MCAS El Toro, CA

MAG-11

MALS-11
VMFA-212
VMFA-232
VMFA-235
VMFA-314
VMFA-323
VMFAT-101
VMGR-352
VMFA(AW)-121
VMFA(AW)-242
VMFA(AW)-225

MACG-38

MWCS-38
MTACS-38
ATC Det

MWSG-37

MWSS-373

MCAS Yuma, AZ

MAG-13

MALS-13
VMA-214
VMA-311
VMA-513
VMA-211
MWSS-371
2d LAAM Bn
MACS-7

MCAS Tustin, CA

MAG-16

MALS-16
HMM-268
HMM-164
HMM-166
HMH-363
HMT-302
MWSS-374
HMH-465
HMM-163
HMM-161
HMH-361
HMH-462
HMH-466
MATCS-38(-)

MCAS Kaneohe, HI

MAG-36 Rear

MALS-36 Rear
HMH-463
HMM-165
HMM-265
HMM-364
HMH-366

MCAS Camp Pendleton, CA

MAG-39

MALS-39
HMLA-169
HMLA-267
HMLA-367
HMLA-369
HMT-303
MWSS-372
Det MATCS
MACS-1
MASS-3
3d LAAD Bn

LAAM = Light Antiaircraft Missile
LAAD = Low Altitude Air Defense
ATC = Air Traffic Control

East Coast

Bogue Field, NC

MWSS-271
ATC Det

MCAS Cherry Point, NC

MAG-14

MALS-14
VMAQ-1
VMAQ-2
VMAQ-3
VMAQ-4
VMA-223
VMA-231
VMA-542
VMAT-203
VMGR-252
VMGR(T)-253

MACG-28

MTACS-28
MACS-6
MASS-1
MWCS-28
3d LAAM Bn
2d LAAD Bn

MWSG-27

MWSS-274

MCAS New River; NC

MAG-26

MALS-26
HMM-261
HMM-264
HMM-266
HMH-362
HMH-461
HMLA-167
HMT-204

MAG-29

MALS-29
HMM-162
HMM-263
HMM-365
HMH-464
HMLA-269
MWSS-272
ATC Det

MCAS Beaufort, SC

MAG-31

MALS-31
VMFA-115
VMFA-122
VMFA-251
MWSS-273
MACS-2
VMFA-312
VMFA-451
VMFA(AW)-224
VMFA(AW)-332
VMFA(AW)-533

Far East

MCAS Iwakuni, Japan

MAG-12

MALS-12
VMA-Pac*
VMFA(AW)-Pac*
VMFA-Pac*
VMFA-Lant*
VMAQ-Lant*
MWSS-171

MCAS Futenma, Okinawa

MAG-36

MALS-36
HMM-262
HMH-Pac*
HMM-Pac*
HMLA-Pac*
VMGR-152

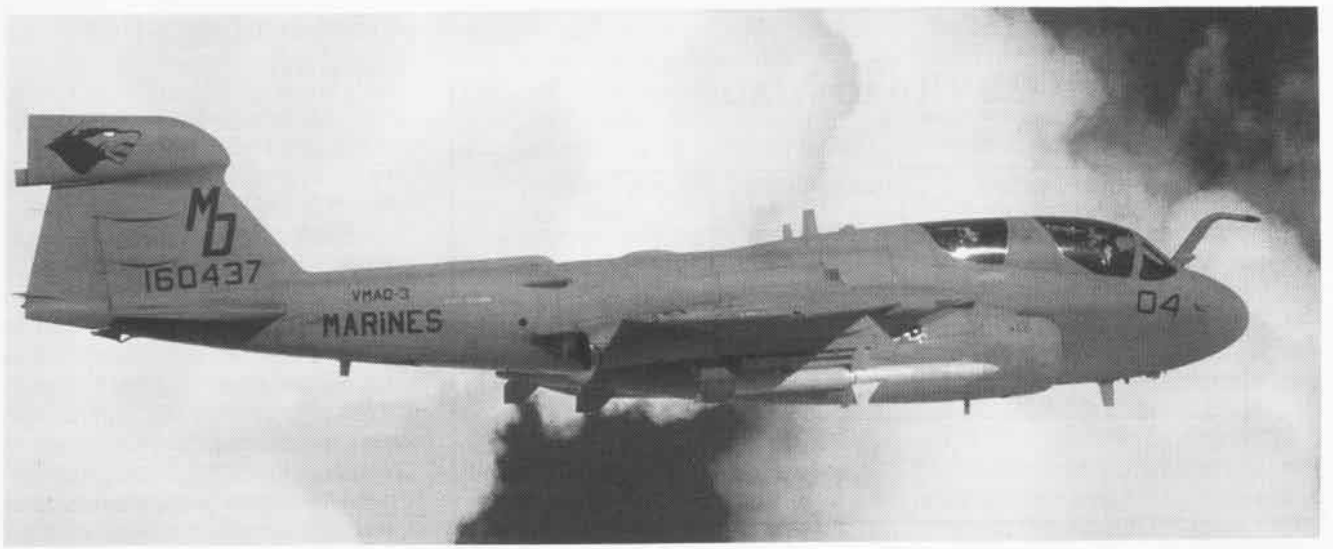
MACG-18

MTACS-18
MACS-4
MWCS-18(-)
1st LAAD Btry
MASS-2

MWSG-17

MWSS-172

*Denotes Pac/Lant Unit Deployment Program squadrons



EA-6B Prowler mission: electronic countermeasure and electronic warfare support, and tactical electronic reconnaissance.

KC-130 Hercules mission: aerial refueling; transport for supplies, equipment and troops; ground refueling when other services are not available; and command and control of direct air support for ground forces.

Aircraft Modernization

The fielding of the V-22 remains the number one aviation priority for the Marine Corps. Expected operating capability is 2001 with the standup of 12 aircraft in Marine Helicopter Training Squadron 204. Additional aviation priorities are the continued procurement of the AH-1W, the FA-18D, the Advanced Tactical Air Reconnaissance System, and the remanufacture of the AV-8B with a new engine, structural upgrades, a targeting radar (APG-65), a night vision compatible cockpit and various survivability features. Reserve aviation will continue to modernize by transitioning to the FA-18A, KC-130T and AH-1W, as well as deactivating the last OV-10 squadron in the Marine Corps.

Maintaining the combat capability of Marine Aviation despite reduced budgets is of primary concern. Today's sophisticated weapon systems permit effective engagement of opponents at night and during periods of adverse weather. The Marine Corps continues to develop systems and aircraft that take advantage of these technologies.

Our approach has been to modify existing airframes to meet the night-fighting requirements of our combined arms MAGTF. Systems such as the AH-1W Night Targeting System, CH-53E Night Vision System, Radar/Night Attack AV-8B, Night Strike FA-18C/D, Stinger night sight, KC-130 Night Vision System and night lighting for Expeditionary Air Fields (EAF) will greatly enhance our night and adverse weather capability. The EAF 2000 that is within the Marine Wing Support Group provides the ACE commander the ability to coordinate with the Force Service Support Group and establish or upgrade airfields, air facilities and landing pads in austere, forward areas to enhance his expeditionary capability and "move to the sound of the guns."

V-22 "Road Map"

AVPLAN Force Goal (Manpower Constrained)	Training	RDT&E HMX-1	Pipeline	20-Year Attrition
AVPLAN = 22 x 12 = 264 (Active 18 x 12/ Reserves 4 x 12)	40	23		
Required Operating = 327			10.0% + 33	
Required Inventory = 360				1.0% + 65
Procurement Objective = 425				

Aviation Logistics Support

The rapid deployability and sustainability of the ACE is made possible through aviation logistics capabilities inherent in its Marine Aviation Logistics Squadrons (MALS). Support is predetermined by T/M/S aircraft parts packages called "Fly in Support Packages," which provide the organizational-level remove-and-replace materials necessary to allow Marine aircraft to commence flight operations immediately upon arrival in theater. When combined with the organizational-level support equipment aboard maritime or amphibious ships, either prepositioned or accompanying the

The MV-22 remains the Marine Corps' #1 priority.

AH-1W Cobra mission: fire support and security for forward and rear area forces; armed escort for helicopter operations; and terminal guidance for close-air support, artillery, mortars and naval gunfire.

UH-1N Huey mission: airborne command and control, and transport of troops, supplies and equipment.

aircraft, they provide critical aviation support for 30 days of combat flying. These support packages provide interim support until intermediate (I)-level maintenance capability arrives in theater.

I-level capability supports both common repair and specific T/M/S aircraft repair and can be configured to meet various ACE force requirements. I-level capability is contained within Common Contingency Support Packages and Peculiar Contingency Support Packages, respectively. These support packages consist of the support equipment, mobile facilities and spare and repair parts, and they are accompanied by Marine Occupational Standard-specific Marines needed to sustain deployed aircraft. They support every type of aircraft in the Marine Corps inventory. While the contingency support packages can be transported via sea or air lift, the preferable method is to utilize specially configured aviation logistics support ships, designated by the acronym T-AVB (aviation logistics transport), that are capable of onloading and operating tailored MALS intermediate-level maintenance assets. This capability can be provided en route to, or in-stream adjacent to, the land-based ACE. When required, the ship can be off-loaded quickly and MALS capability phased ashore.

Marine Air Control Group Reorganization

During FY 92, a major reorganization within the Marine Air Control Group began. This reorganization, which will be completed during FY 94, involved a number of consolidations:

- Headquarters and Headquarters Squadron has been redesignated as the Marine Tactical Air Control Squadron. The Marine Air Control Squadron (MACS) and the Marine Air Traffic Control Squadron are combining into a single functional MACS. Each MACS will have a full Tactical Air Operations Center (TAOC) detachment (four operations modules with three radars) and two air traffic control detachments. The active aircraft wings will have two MACSs, except First MAW which will have only one. Fourth MAW will be organized similarly but will have only a single air traffic control detachment in each MACS.
- Light Antiaircraft Missile Battalions employing the HAWK (Homing All the Way Killer) missile system, will restructure into "Corps" assets of one active and one reserve battalion. Each battalion will be organized into a headquarters element, three firing batteries and a Headquarters and Service Battery. These six firing batteries (three active, three reserve) meet projected joint and MAGTF requirements for air and missile defense.

The HAWK Mobility/Survivability Enhancement program will digitize the launcher, providing two upgrades. It allows for the transport of ready missiles on the launcher, eliminates data cables and reduces the strategic lift footprint. Upgrades to the TAOC's three-dimensional surveillance radar (AN/TPS-59) and the Battery Command Post and the addition of the Air Defense Communications Platform will greatly enhance HAWK's ballistic missile defense capability.

- To provide the ACE commander with the most effective means of transmitting and receiving critical data to support decision making, the Marine Wing Communications Squadron (MWCS) is being reconfigured into two detachments. Each det is capable of supporting two airfields and four forward sites. MWCS-18 will be organized with only one detachment.

Throughout this aviation plan period, digital communications equipment will give the ACE commander the ability to communicate more effectively in the joint arena. Newer and larger multichannel circuits will allow better communications capability between geographically separated sites both internal to the wing and external to the Marine Corps. Additionally, the integration of joint command and control (C2) programs, such as the Joint Tactical Information Distribution System (JTIDS) and Contingency Theater Automated Planning System (CTAPS) into the ACE C2 system will allow enhanced support to the MAGTF. With the introduction of an Advanced Tactical Air Control Center (ATACC), air planners and operations personnel will have a modern, state-of-the-art facility from which to command and control aviation assets.

Communications and Weather Support

Revisions to the Table of Organization (T/O) of the Marine Wing Support Squadrons' (MWSS) communications section have been completed, concurrent with the reorganization of the MWCS. It now reflects 1 officer and 36 enlisted personnel, thus improving the MWSS commanders' capability to provide all internal airfield communications support (telephone and radio) for one composite Marine Aircraft Group at an EAF. Also, each MWSS Weather Services Section T/O has been increased by 1 officer and 4 enlisted personnel to allow for the formation of a Weather Support Team. These teams, which will remain in the MWSS until the Marine Expeditionary Force headquarters or its Major Subordinate Commands deploy, will provide much needed weather services to the Command Element, Ground Combat Element or Combat Service Support Element.

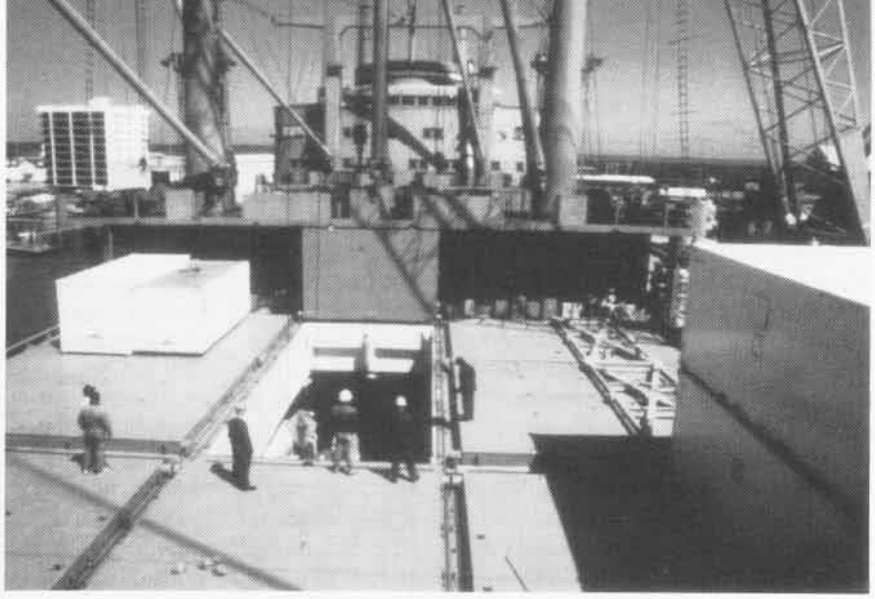
Total Force Approach

As the Marine Corps adjusts and adapts to a new era, Total Force readiness will remain a primary focus. The reserve component of Marine Aviation will modernize, reorganize and consolidate in an effort to mirror the weapons systems and capabilities of the active force. A few important adjustments are being made by Marine Reserve Aviation:

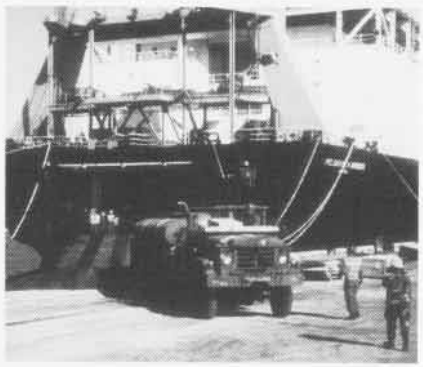
- Marine Attack Helicopter Squadron and Marine Light Attack Helicopter Squadron (HMLA) consolidation, forming two HMLAs.
- The deactivation of Marine Observation Squadron 4.
- The reorganization of Marine Heavy Helicopter Squadron 772 from three five-plane detachments to two eight-plane squadrons.
- The transition from the A-4 and F-4 to the FA-18.

The flexible support provided from both naval sea basing and austere sites ashore and the ability to operate capably in a joint or combined environment highlight the value of Marine Aviation's expeditionary capabilities. Marine Corps Aviation seeks to provide a responsive, fully integrated, balanced and ready ACE. Further reorganization and refinement will be implemented as required by future force structure decisions. Weapon system improvements will continue to maximize combat power to the MAGTF while offsetting the potential for tactical obsolescence. Readiness and training will continue to be emphasized to ensure unity of effort through a consistently capable, high-quality and responsive aviation force. ■

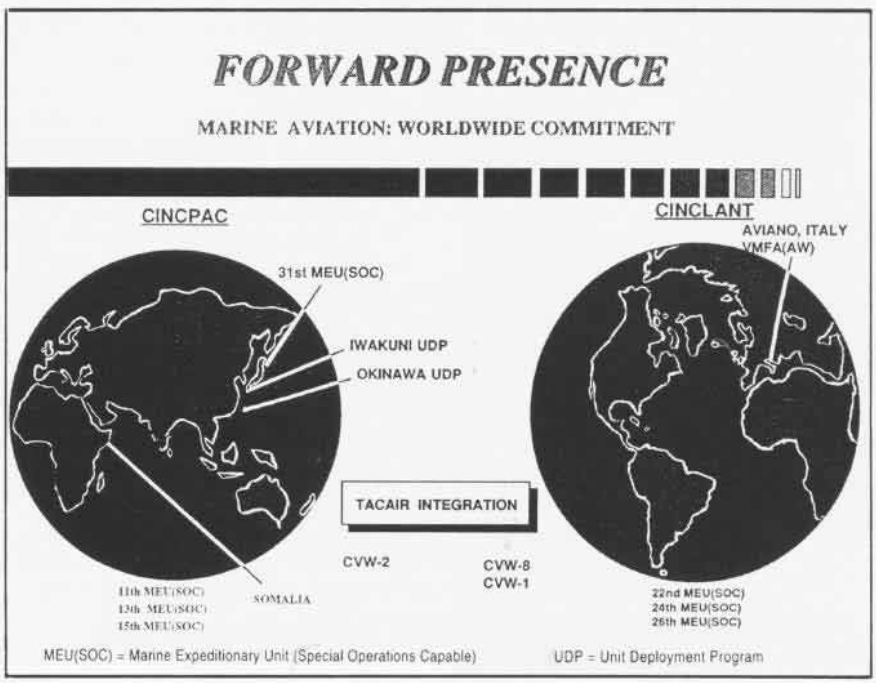
Lt. Col. Darrah is an action officer in the Aviation Plans, Programs, Doctrine, Joint Matters and Budget Branch (APP) under the Deputy Chief of Staff for Aviation, Headquarters, U.S. Marine Corps.



T-AVBs are capable of onloading and operating tailored MALS intermediate-level maintenance assets.

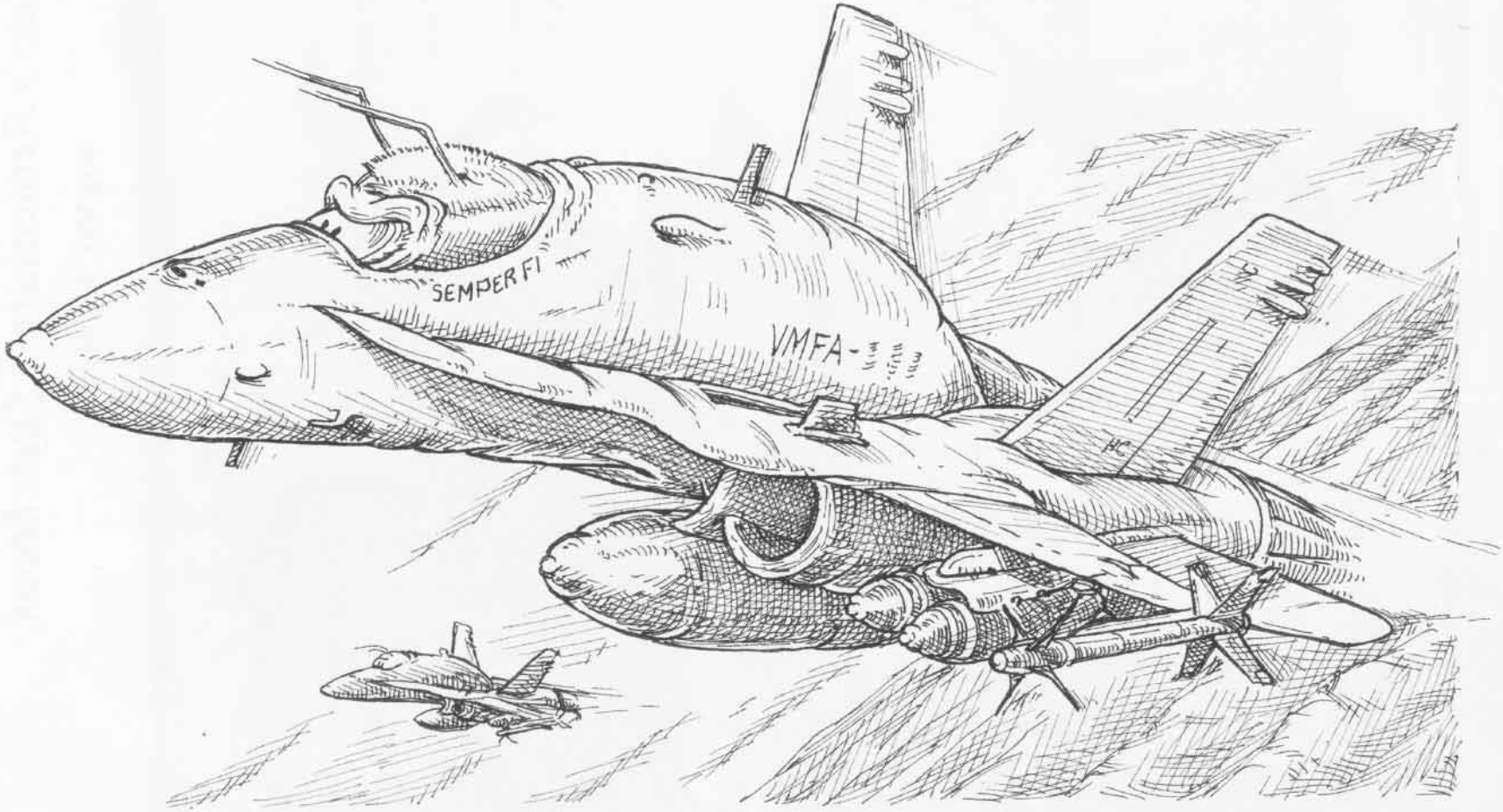


Maritime Preposition Force ships such as this provide Marine Aviation with the flexibility to be responsive in any situation or place.



Hank Caruso's Aerocatures™ Sketchbook:

Semper Fly



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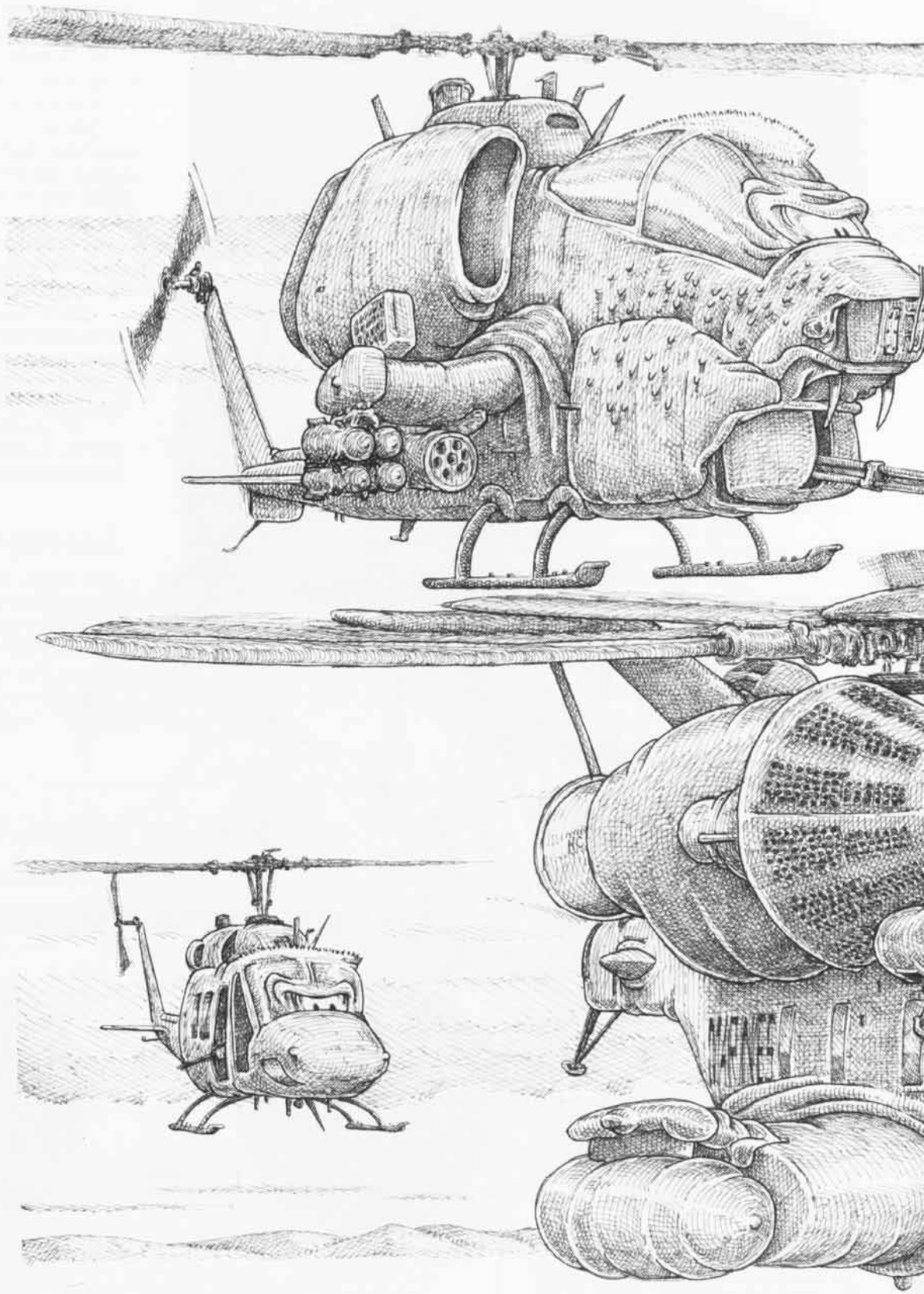
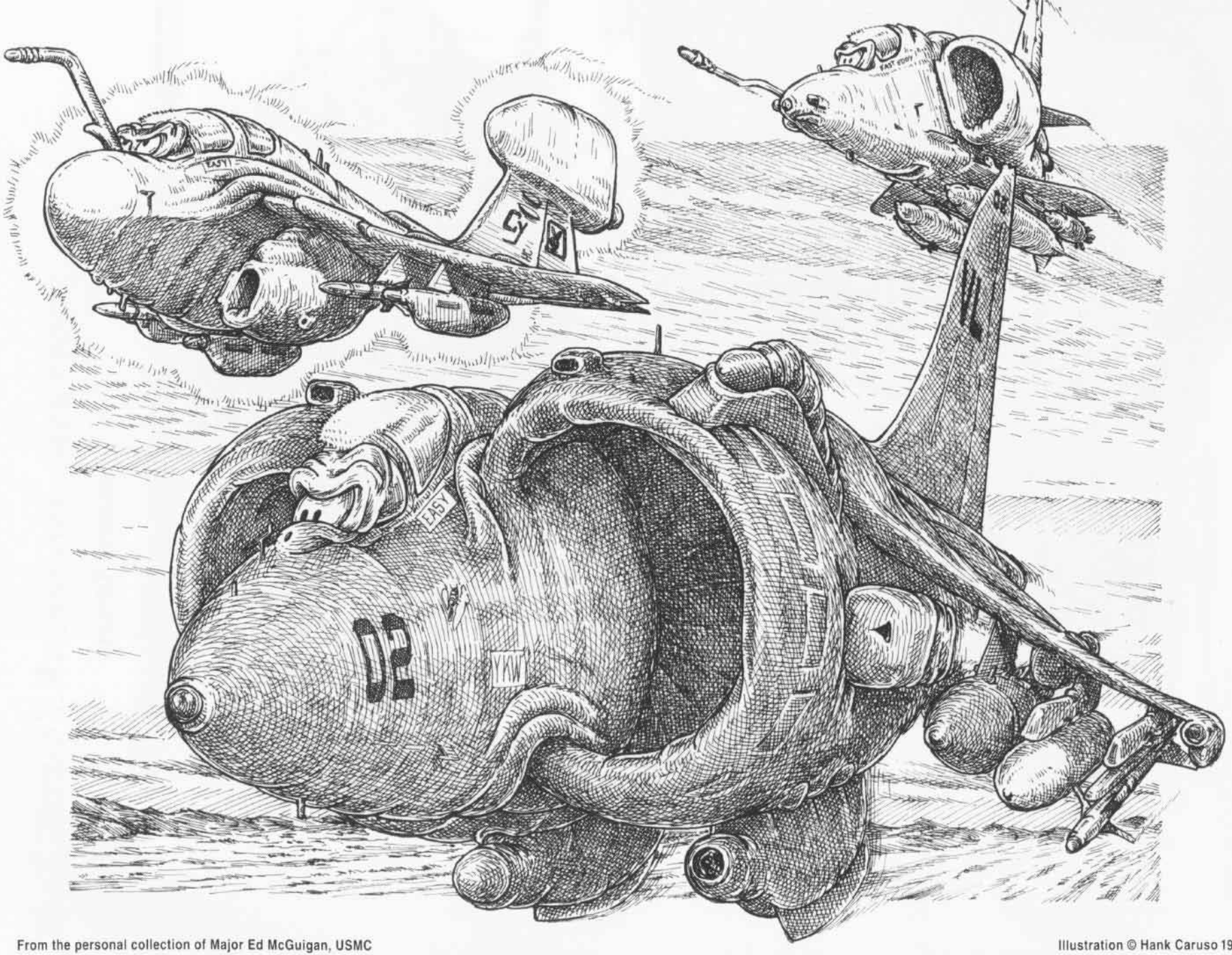


Semper Torque

Illustration © Hank Caruso 1994

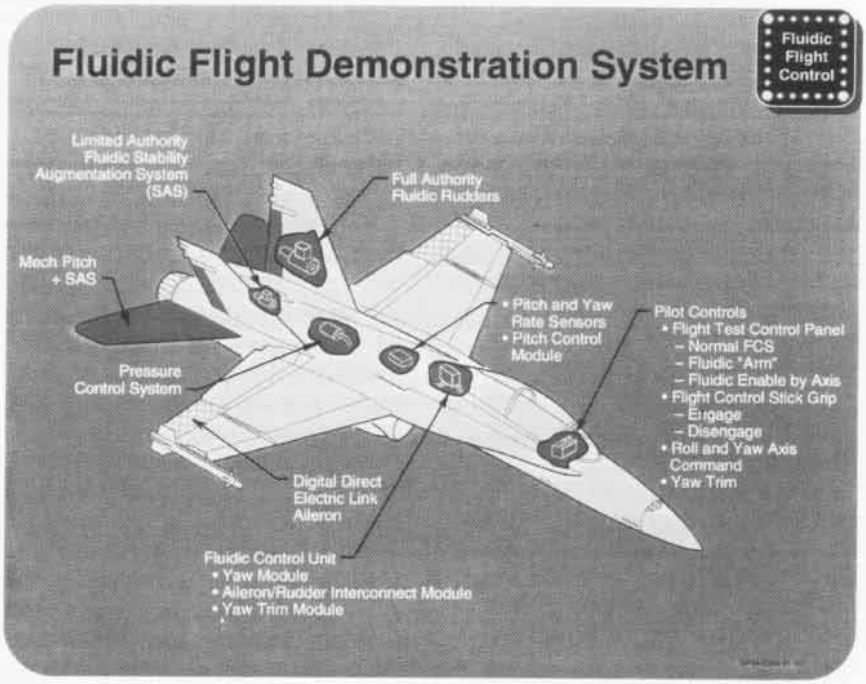


From the personal collection of Major Ed McGuigan, USMC

Illustration © Hank Caruso 1993

Hydraufluidic Flight Control Validated for Advanced Aircraft Application

Dr. David Keyser and Richard C. Deitrich



We developed a program to study sophisticated digital fly-by-wire flight control systems that provide significant benefits in capability and mission flexibility, especially on statically unstable aircraft. As capable as these systems are, however, they are relatively expensive to develop and procure. Another concern is that directed-energy weapons might be able to render digital flight control systems useless. One possibility for countering this threat in our study was to develop and demonstrate a back-up flight control system with closed-loop stabilization, which is immune to electromagnetic interruption. The beginnings of this advanced technology demonstration of hydraufluidic flight control was reported in the Spring 1992 issue of *Aircraft Survivability*.The hydraufluidic system performance requirements for the demonstration aircraft were translated into a set of hardware design requirements and, ultimately, into the fluidic modules illustrated in the figure. For the flight demonstration configuration, fluidic control was implemented in the yaw and pitch axes. Fluidic control of the ailerons was emulated electrically with no roll-rate feedback. Flaps were fixed and optimized for in-flight refueling or carrier approach. The fluidic yaw control path provided full-authority control of the rudders with stability augmentation completely independent for the FA-18's digital flight controls. Rudder pedal input was summed with lateral stick position via a fluidic aileron-to-rudder interconnect to provide coordinated turn capability. Pitch control in the fluidic mode uses the existing back-up mechanical stabilator linkage with an in-line, low-authority (± 5%) pitch stability augmentation system to improve damping in the longitudinal axis.A three-axis simulation model (typical of a production application) also was designed with fluidic components that could be developed using current technology. The components included the dual-mode actuators, the integrated control and sensor modules and the pressure control module interfaced with the central hydraulic system. Other fluidic feedback sensors, such as angle of attack and impact pressure, were used. The estimated weight of this system was 137 pounds. This system provided augmented full-authority control of the rudders, stabilators and ailerons.

Since an actual flight demonstration ultimately was not to be conducted, there was a need to investigate the interactions between the fluidic and central hydraulic systems. Short of actual aircraft installation, integration with an iron bird provides a very realistic environment for test. Testing was performed over a range of supply temperatures from 100 to 200 degrees Fahrenheit.

Development testing at HR Textron and iron bird testing at McDonnell Douglas Aerospace have shown that hydraulic system flow demands are reasonable and that the pressure control scheme can adequately reduce transients. When oil temperature variations are managed properly, signal noise is reduced to acceptable levels.

Three Navy test pilots evaluated the two-axis and three-axis systems in mid-April 1993. Carrier landing and refueling tasks were evaluated for each system, including the effects of hydraulic oil temperature variation on fluidic system performance. The refueling data shows that workload for the two-axis system is close to that of CAS (the primary digital flight control of the FA-18) and is about 1/2 point lower in the handling qualities rating at the nominal design temperature. The three-axis fluidic workload is comparable to CAS. In general, the pilots were able to perform the landing and refueling tasks with either fluidic configuration. The advantages of the three-axis system are improved performance under nonideal conditions with a manageable workload. The two-axis system may be adequate only for visual flight conditions. We reiterate that both systems were designed for the critical "get home" tasks of aerial refueling and carrier recovery. ■

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Dr. Keyser, Chairman, Flight Controls Committee, and Mr. Deitrich, program manager in the Aero Engineering Division, are with Naval Air Warfare Center Aircraft Division, Warminster, Pa.

Enlisted Aviation Series

Aviation Electronics

With more than 13,000 sailors filling its ranks, the Aviation Electronics Technician (AT) rating is the third largest enlisted community in the Navy. These highly trained men and women repair some of the most advanced electronic systems in the world. Emerging technologies coupled with a rapidly changing Navy make this rating a prime example of the exciting future in store for Naval Aviation.

"In 1991, the Aviation Fire Control Technicians (AQs) and the Aviation Antisubmarine Warfare Technicians (AXs) merged with the ATs, making one rating," ATC(AW) Aaron W. Stacy, the AT E-6 detailer, said. "Although we work on different pieces of gear, our jobs are basically the same—troubleshooting and repairing electronic equipment."

According to AT1 Robert H. Kelley, Leading Petty Officer (LPO) of Carrier Airborne Early Warning Squadron 124's Work Center 210 assigned to *Theodore Roosevelt* (CVN 71), the merging of three ratings into one went smoothly. "I can only speak for the E-2 community," Kelley said, "but I didn't notice any big change. People who worked on helicopters or F-14s or E-2s are for the most part still working on those platforms because of their Navy Enlisted Classification (NEC) code."

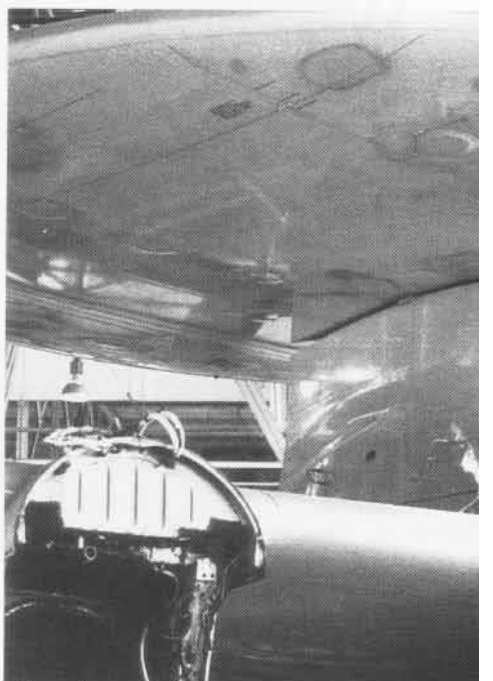
NECs (including more than 200 specialties specific to the AT rating) can keep a sailor working on a particular aircraft for an entire career. "But the Navy allows for change," Stacy said. "We don't close-loop detail, meaning once a *Hornet* AT always a *Hornet* AT. We do try to use NEC reutilization. It only makes sense that when you invest a great deal of money training a person to work on a particular system, you get your investment back. However, the needs of the Navy might require a sailor to transfer to a different type of aircraft for manning purposes or, as we have seen recently, to change platforms because of an aircraft being retired—as with the H-2 or the upcoming A-6 phaseout. These sailors must learn new skills and acquire a new NEC. We [detailers] work with that sailor and help him or her make the best career move."

The rating can be broken down even further than NECs. ATs can work either organizational or intermediate ("O" or "I"-level) maintenance. O-level sailors are assigned to squadrons to troubleshoot systems and perform routine maintenance, actually working on the aircraft. They trace the problem to what is known in the trade as the "black box" and then usually remove the box and send it to the Aviation Intermediate Maintenance Department (AIMD). The I-level technicians at the AIMD then troubleshoot the box down to a component or circuit card and make the repairs. Each procedure is strictly guided by operational manuals that tell what maintenance can be performed at each level.

"Because the work performed in these two areas is so different, we have two different advancement tests," Stacy said. "Sailors can request either the O-level or the I-level exam in order to improve their chances for promotion."

ATs begin their training by attending a 27-week "A" school at NAS Memphis, Tenn., where they gain the basic knowledge and skills of electricity and electronics and how to apply that knowledge to aviation electronics. An additional nine months of school awaits a sailor who enlisted for advanced electronics, a course which requires six years of obligated service. After successful completion of the A school and before attending the advanced training, ATs in the advanced program are advanced to E-4.

As in most aviation ratings, ATs are allowed to choose their orders to their first duty station by class ranking. The top graduate in the class gets first choice of orders. This is an extremely important decision for the young sailors as their duty preference will in all likelihood decide which platform



ATs work on some of the most sophisticated equipment in the Navy. ATAA James C. Lindstedt of VAW-124 replaces a radome access panel on board an E-2C.

Inside a Hawkeye, ATAA Lindstedt replaces a computer component.

Technician

Story and Photos by JO1(SW) Eric S. Sesit

they will work on for most of their career. "This is definitely a time to remember the old Navy adage of 'Choose your rate, choose your fate,'" Stacy commented.

Before reporting to an operational squadron, ATs gain an additional two to three months of on-the-job training at a Fleet Readiness Aviation Maintenance Personnel Squadron [FRAMPS], usually in the same location as their assigned squadron's home port. When they finally report to their squadron, they can expect, along with every other airman or seaman, to work 90 days with the 1st Lieutenant's Division maintaining shore based facilities or, if the squadron is deployed, 90 days as mess management attendants [mess cranking].

"When they do arrive in the squadron [O-level], they will work under close supervision of a third or second class petty officer, learning the job, removing and installing the black boxes and getting to know the plane and all the systems. It can take years to learn all the components on one aircraft." Kelley said. "As a second class petty officer, the AT should be qualified as a flight line troubleshooter, diagnosing problems and figuring out the solutions. A first class petty officer will begin to transition into the supervisory role as a shop LPO or work center supervisor."

To keep abreast of system upgrades, education is an ongoing necessity for ATs. "The FA-18 is a good example of how system developments drive the ATs' need for continued education. Most of the system upgrades are taught at the squadron level by technical representatives," Stacy said. "The F-14s already have new FRAMPS on line to train ATs in servicing the F-14D, which is on its first operational deployment with VF-31 and VF-11 on board *Carl Vinson* (CVN 70)."

During the course of a career, ATs can expect to spend approximately 60 percent of their time at sea. Third class petty officers serve their entire first tour, up to 54 months, at sea before reporting to shore duty for three years. Second class petty officers spend 48 months at sea and 36 months on shore while a first class splits his or her time at 42 months at sea and 42 months on shore. Chiefs and senior chiefs serve 36 months at sea and 36 months ashore. At the master chief level, ATs combine with AEs (Aviation Electricians Mate) to become AVs (Master Chief Avionics Technicians). They, too, will split their time between sea and shore at 36 months each.

The AT community as a whole is looking towards a bright future. Stacy said, "Initially, when we combined the rating with the AXs and the AQs, we were over manned. That, coupled with the Navy-wide drawdown, hurt promotions. But things are definitely on the upswing. We're undermanned at the E-4 level, which makes us a very attractive rating for a young person who wants to work on the cutting edge of technology. The skills these people learn are immeasurable."

Stacy concluded, "As we complete the drawdown, advancements should get better. In fact, we'll probably see proof of that on this exam cycle. For those ATs in the middle of their careers, the buzz word is flexibility. Be prepared and willing to change platforms if the need arises. And if you're an E-6 coming up for orders, stand by to go overseas. That's where we need you the most and that's probably where you will go." ■

On-the-job training is key to learning the complicated systems ATs maintain. AT1 Robert Kelley demonstrates to ATAA Lindstedt how to install a main display unit on board an E-2C.

A Career of Opportunities

By JOCS(AW) Theresa L. Dunn

JO1(SW) Eric S. Sesit

LCdr. Mary C. Redshaw, Assistant Program Manager for Global Positioning System at SPAWAR, retired from the Navy 1 April 1994 after 21 years of service.

Lieutenant Commander Mary C. Redshaw, considers herself "an opportunist," but in her case, the word has a positive meaning. "If I were going to characterize what my Navy career has been like," she explained, "it has been stumbling into opportunities and then having either the wherewithal, the encouragement or both to take advantage of them. The Navy is very good at making opportunities available and then it is up to the individual."

During her 21-year career, LCdr. Redshaw progressed up the ladder from the bottom rung of the Navy as a seaman recruit. She was designated a Surface Warfare Officer (SWO), earned her wings as a Naval Flight Officer (NFO) and, as such, was the first woman to achieve dual warfare designations. She subsequently qualified as an Aerospace Engineering Duty Officer (AEDO).

She contributes her success to the support she received from her seniors. "It is up to senior members to make sure that their people are aware of what is open to them. That's been a big factor in my career," she said.

Redshaw began her Navy career on 15 February 1973. While she claims few "firsts," she was usually "one of the first," she recalled. Beginning in boot camp at Orlando, Fla., Seaman Apprentice Redshaw was selected as Recruit Chief Petty Officer for her company and completed boot camp as the Recruit Training Command (Women) American Spirit Award winner.

After recruit training she was one of the first women to attend Cryptologic Technician (CT) "A" School, the first woman to serve in the Great Dismal Swamp area, 30 miles south of Norfolk, then on to Misawa, Japan, where she was selected for the NESEP (Naval Enlisted Scientific Education Program) after she made second class. "When I enlisted in the Navy, the first class petty officer who administered the test battery that guaranteed me CT school told me about the NESEP program," she said.

"My boot camp company commander, Data Processing Technician First Class Betty Ness, also talked to my parents and me [about NESEP] at boot camp graduation. I kept in touch with my career counselors and waited until I was eligible; I applied and was accepted. "I was overseas in Japan when I was selected for NESEP. I was brought back to the states, sent to prep school and then right back home to Austin, where I attended the University of Texas."

Redshaw, the 42-year-old daughter of retired Air Force Colonel Bert M. Cottrell, Jr. (also an aviator), said, "I was born and raised a military brat. We moved to Texas when I was 9 or 10 years old, and my dad retired from there.

She spent the summer before graduating from the University of Texas at Officer Candidate School, where she served as the class' Regimental Commander. "It was the first year that they mixed the NESEP candidates with the regular officer candidates, yet there was no distinction between us other than our time was abbreviated," Redshaw said. After completing her Bachelor of Science degree in Engineering Science, she was commissioned by her father.

Her first assignment as a new ensign while awaiting Surface Warfare Officer School was at NAS Pensacola, Fla. Ensign Redshaw reported to *Lexington* for her first operational billet as the Air Department Administrative Officer and Hanger Deck Division Officer. She qualified as Officer of the Deck under way and subsequently as Surface Warfare Officer.

"I had lots of friends in deck and engineering who really had a rougher time than I did," Redshaw remembered. "Having been both an SWO and an aviator, I've really seen the difference in the training pipelines. The surface side seems to make it trial-by-fire for the junior folks coming up. The air department not only helped me complete my PQS for surface warfare, but they encouraged me to get out on the ship and learn as much as I could. They had me standing watches in the various enlisted watch stations and seeing all aspects of carrier operations. When the NFO program opened up to women, it was the mini boss who encouraged me to apply.

"Although I've seen a few situations where senior enlisted and senior officers did not take the time to look out after their #1 asset—their people; fortunately, the majority are really good about trying to take care of their people." The commander attributes part of her success to that type of support.

"On *Lexington*, and in most aviation squadrons, there are a lot of nondesignated strikers who come on board and have to figure out what they can do, what is open. Young sailors really need help in identifying what they can strike for and need encouragement from people who know the system to help them get through the wickets. Aviation squadrons are good at helping young sailors choose.

"Aviation squadrons are also good at training junior officers. As officers we are such generalists, unless we are staff corps, we can fall into one of

a couple of warfare specialties or we are general line officers. That is where my seniors were very supportive."

Redshaw went from SWO to NFO to AEDO. "This was another opportunity," she said. "I was fortunate enough to go to the Naval Postgraduate School and earn an aeronautical engineering degree. Just before graduation, I put in for AEDO. It is a great community because you can stay active in flying. My first tour as an AEDO was at VX-1 in a flying billet. I was involved with test and evaluation in support of acquisition.

"One of the things I miss about being an NFO is having a crew, having a mission and knowing who I am flying with all the time. As independent operators, we had the trust of the CO to go do our job because we'd shown that we could. Flying is not the same thing in an acquisition billet. You don't have a crew and you aren't a mission commander anymore. It's different and I really miss my crew."

When asked about her most fun and her most challenging assignment, the LCdr. replied, "They've all been challenging and fun, but probably the most fun was as an ensign on *Lexington*. The Air Department just kept shooting me off in various directions to experience the ship. There is no way to describe what that was like—to have the responsibility of being the Officer of the Deck and actually running the ship, knowing the captain was depending on you to know what was going on. That was exciting! That was fun!

"My most challenging assignment was in VQ-3 going through the syllabus and qualifying as mission commander, but the fun came right along with it. In VQ-3, as a lieutenant, a mission commander, I had awesome responsibilities. In fact, I had more responsibility in that job than I've ever seen again and probably ever will.

"I think there are optimum ranks in the Navy's structure and, to me, O-3 is the prime time of life. You have incredible responsibility. Ensign is all right because you are brand-new to everything and people are reeling out the line. They know you are going to make mistakes and when you do, they [redirect you].

"The equivalent experience when I was enlisted was when I made third class petty officer. One day, I was the best person they had running a buffer on field day—the next day I had everybody's confidence. I was going to be a supervisor and they were more careful in explaining what we were doing and why. I enjoyed being a supervisor."

As an AEDO, Redshaw faced yet another challenge at VX-1 as a P-3 Sonobuoy Missile Locating System Cape Canaveral mission commander. "This job basically entailed flying with a P-3 aircrew to Patrick AFB, Fla., and interfacing with the people at Cape Canaveral who were coordinating testing for the Poseidon or Trident missiles. I was in the control center maintaining high-frequency communications with the down-range aircraft. It involved knowing how the test was to be run, and where to direct the aircraft if something went wrong. It was challenging, but lots of fun."

It was while assigned to VX-1 that she met her husband, Captain Michael Redshaw, currently assigned to the Naval Air Systems Command (NavAir). "Michael was on his way out as I was checking in," she said. "We crossed paths again when I was still at Pax River and he was assigned to NavAir in Washington," she added. Mary and Michael married in February 1993.

"I made the decision to retire just over a year ago. It was real tough. I was coming up for commander on the FY-94 March board and I looked around at what was going on in the D.C. area in the high-tech arena and wanted to get in on the ground floor. I decided it would be a good time to make the transition. Now that I've made the decision, I'm ready to go; it is my next opportunity," she said emphatically.

"I'm going to be in a profit-and-loss type of world instead of service to country. I will be an associate and coworker rather than a shipmate. It will be an adjustment, but I'm ready."

In her farewell address, LCdr. Redshaw talked about the changes in the Navy and the changes in the role of women. When asked how she felt about women in combat, she replied, "I guess at this point, it is inevitable. As a woman, I think it is great that women are getting opportunities and aren't being hamstrung. As an officer, as a Navy member or as a person who is interested in the defense of the nation, I think it is important that it not be a social experiment. It is important that it be wholehearted, that we are committed to this and there is no differentiation between men and women. It is important that we not take a few women and put them in an ivory tower. It has to be all or nothing. It is going to be difficult.

"The Navy has made the commitment and those who don't want to let that process take place are going to be dinosaurs who will be pushed aside, and a new generation will take over."

During his remarks at her retirement ceremony, Captain Barry F. Schwoerer, Program Manager for Navigation Systems, Space & Naval Warfare Systems Command (SPAWAR), called LCdr. Redshaw "an officer and a gentlewoman ... a leader and trailblazer for women throughout the military services. Women in the armed services have recently won the right to be assigned alongside their male counterparts in combat assignments," he concluded. "That right was won in part because of the trail blazed by LCdr. Redshaw." ■

JO1(SW) Eric S. Sesit

Six women midshipmen from the U.S. Naval Academy served as sideboys for piping LCdr. Redshaw over the side. Each of the midshipmen are seniors selected for aviation training—five for pilot training, one for NFO.

By Hal Andrews

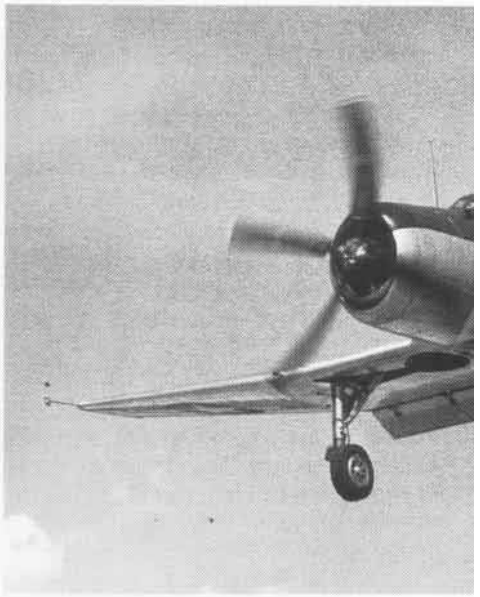
Among many new Navy designs in development at the close of WW II were several prototype dive-bombers. One of these became the venerable Douglas AD (A-1). At the other end of the scale was the Kaiser-Fleetwings XBTK-1. Its completed prototypes were scrapped, rather than being accepted for research and development use, as were those of the other XBT designs.

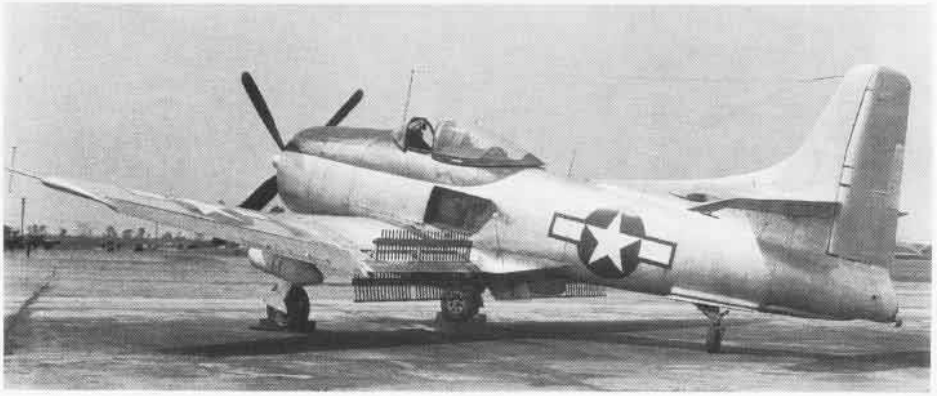
During early 1942, the Bureau of Aeronautics (BuAer) advanced the concept of single-place dive-bombers, capable of speeds closer to those of carrier fighters, as well as greater ranges than two-place VSB dive-bombers. They would also be able to carry torpedoes in their bomb bays and would use larger radial engines then being developed. By late 1943, with two VBT projects under way, and a third being initiated, concern over their increased size and weight led to interest in a lighter, smaller dive-bomber design. As BuAer had done with other wartime new projects, recognizing the engineering workload of companies with major production model programs, a company without a major combat aircraft production program was requested to submit design studies for a dive-bomber designed around the production Pratt and Whitney R-2800 engine in late 1943. The company selected—Fleetwings, in Bristol, Pa.—had built several small stainless steel and conventional aluminum alloy structure aircraft. Airframe and specialty components for various combat aircraft were being produced in 1943 when the company was purchased by and became a division of Kaiser Cargo. After reviewing the Fleetwings proposals, BuAer initiated the XBK-1 project in February 1944 to design and build two prototypes. The new design was pursued with considerable enthusiasm by both the BuAer class desk and Fleetwings.

To keep the airplane size down, all stores would be carried externally using a centerline and two wing racks. As indicated by the XBK designation, it would not carry a torpedo. A radar pod could be carried on one of the wing racks. Dive brakes were upper and lower picket fence type at the inboard wing trailing edge. The horizontal tail was mounted on the fin above the fuselage to further avoid buffeting problems with the brakes open. An unusual feature was exhaust ejector cooling, with both cooling air and engine exhaust exiting from the aft end of ducts extending aft along each side of the cockpit. BuAer-sponsored work by industry on this concept had promised reduced high-speed drag.

Mockup inspection, except for an incomplete engine installation, was in April with a minimum of changes required. The completed engine installation was inspected in May with satisfactory results as design work proceeded to meet the scheduled first airplane completion date in November. By then, 20 more XBK-1s had been ordered, consistent with BuAer policy to expedite fleet introduction of proposed production airplanes, and a new airfield was being constructed at the plant. However, all was not going well. Completion of the first airplane and also the scheduled structural test airframe was delayed, attributed to personnel and plant facility deficiencies, along with mixed Army/Navy government production inspection procedures. Henry J. Kaiser stepped in to see that necessary assistance was provided for the Fleetwings effort.

Redesignation as the XBTK-1 followed a BuAer-requested addition of centerline station torpedo-carrying capability in early 1945. In March, the first XBTK-1 was completed, flying in April. At the same time, the delayed structural tests were finally initiated. Flight tests revealed inadequate engine cooling and a major fuselage vibration problem—amplified by the exhaust ejector ducts. In May, when these had been corrected to an acceptable degree, the airplane went into the shop to incorporate various required items, including correcting structual deficiencies found in static tests. At BuAer's suggestion, the out-of-production R-2800-22W engine was replaced by a much improved -34W during the layup. Flight testing didn't resume until July, proceeding to cover store carriage, flight clearance tests and further work on engine and accessory section cooling in preparation for preliminary evaluation at Naval Air Test Center (NATC), Patuxent River, Md.





XBTK-1

Ferried to NATC in early August, the evaluation was in progress when V-J Day cuts resulted in the XBTK-1 program being cut back to 10 airplanes.

With reduced emphasis, and major problems with the new type propeller installed which required exchange for a standard type, it was two months before the evaluation was completed. The XBTK-1 was returned to Fleetwings for correction of defects and resumption of flight development. Among NATC's major recommendations was use of an alternate standard exhaust and cowl flap system that had been provided for evaluation rather than the exhaust ejector system. It was noted that the cockpit was much cooler with the standard system, and with the ejector system, the fuselage skin temperature after engine shutdown made the cockpit egress and access difficult. Correction of unacceptable stall characteristics was also required, along with a typical number of other unsatisfactory items. On the plus side, diving characteristics were considered superior to other service and development dive-bombers.

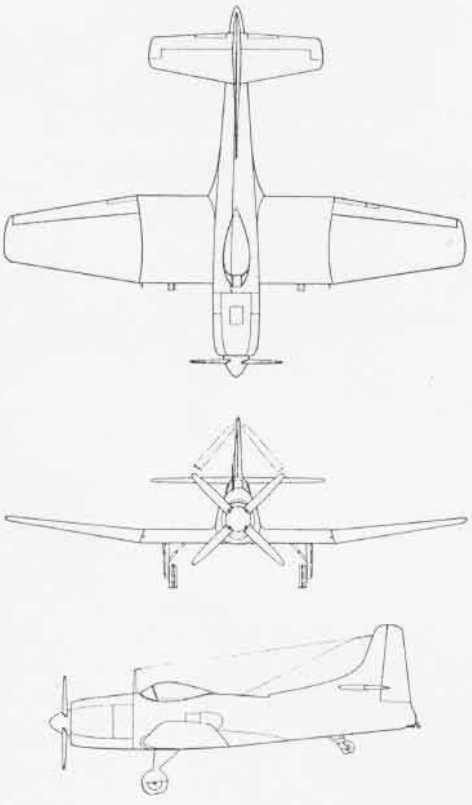
With return of the airplane to the plant, flight investigations of the various stall fixes already selected began. By the end of the year, the number of XBTK-1s had been cut back to five already in assembly, and a fixed slats outboard configuration improved the stall characteristics. In early 1946, the completed second airplane was fitted with similarly located built-in leading edge slots, showing similar improvements in March flight testing. In April, a landing configuration with slightly over half flap and using the slotted wing gave satisfactory stall chacteristics with the same stall speed as the original no-slot, full-flap configuration.

A May agreement to finish up the flight program and deliver the five airplanes as soon as possible for research and development assignments, with minimum changes and expense, was followed in June by the third airplane reaching flight status and the start of spin testing. Two successive spins—in each of which the spin repeatedly reversed, requiring use of the spin chute for recovery—resulted in a spin program halt to reassess the situation. In August, after initial control modifications, one-turn spins in each direction were recovered satisfactorily and the fourth airplane was completed. However, the anticipated cost of correcting the spin/spin-recovery problem and incorporating other changes for acceptance led to contract termination for the convenience of the government as of 3 September. The five airplanes were scrapped—an ignominious end for a promising airplane design.

XBTK-1

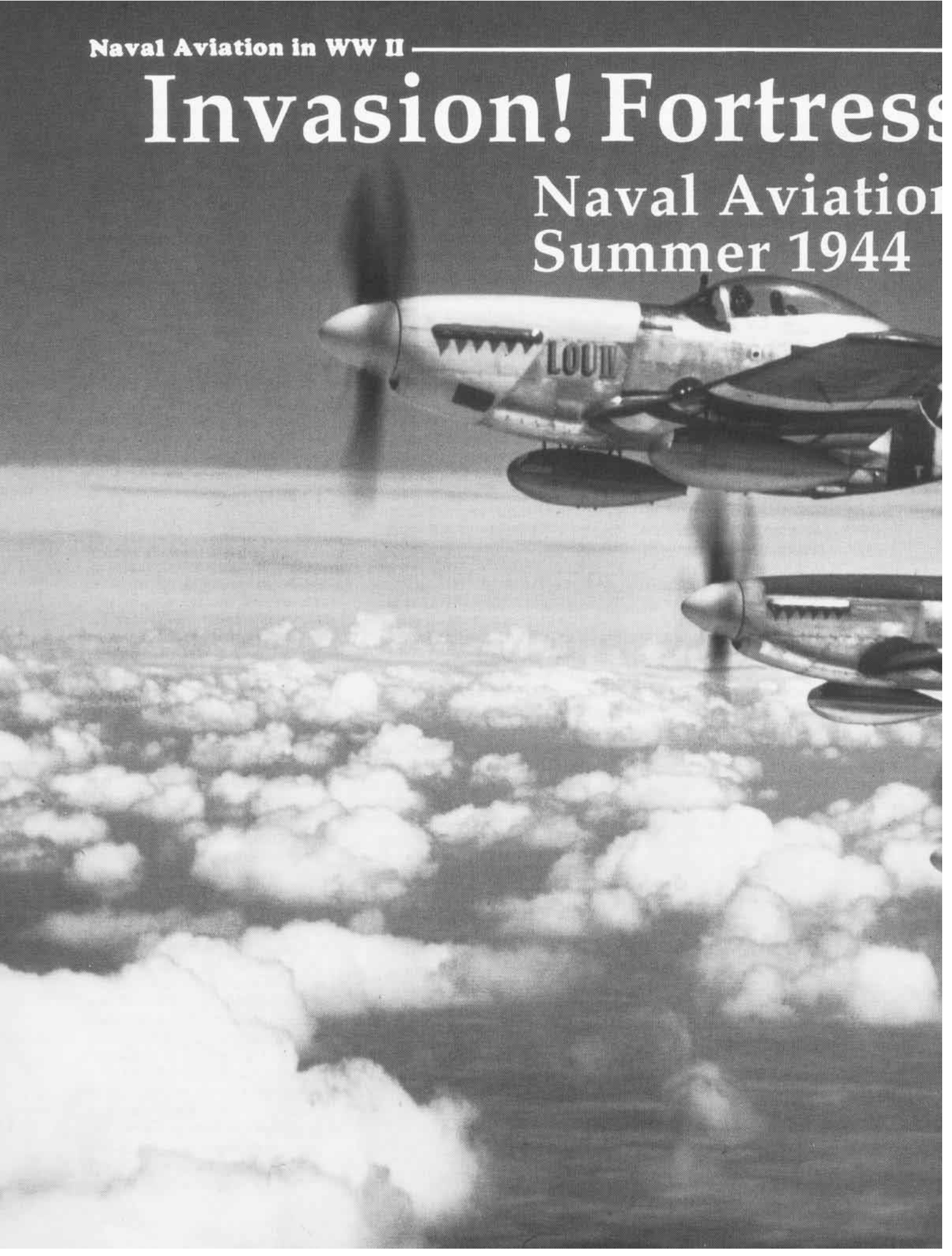
Span	48'8"
Length	38'11"
Height	12'7"
Engine: P&W R-2800-34W	2,400 hp (water injection)
Maximum speed (clean)	341 mph
Service ceiling (1,000-lb. bomb)	31,000'
Maximum range (clean)	1,400 mi

Armament: Two 20-mm guns; up to one centerline 2,000-lb. bomb; two inner wing panel 1,000-lb. bombs; eight outer wing panel 5-inch rockets



Invasion! Fortress

Naval Aviation
Summer 1944



Europe in France,

By Steven D. Hill

During the Second World War, the skies over France and Germany were the responsibility of the United States Army Air Forces and Britain's Royal Air Force (RAF). Naval Aviation had only limited opportunities to engage Hitler's armed forces. Although a fast carrier task force was not present to support the landings at Normandy on 6 June 1944, Naval Aviators did, in fact, participate in the greatest amphibious invasion in history. Later, in August, when southern France was invaded, Naval Aviators again took part. Cruiser Scouting Squadrons (VCS) 7 and 8 and Observation Fighting Squadron (VOF) 1 each fought against "the wily Hun" during the summer of 1944.

The P-51 *Mustang*s that grace these two pages belong to the 361st Fighter Group of the Eighth Army Air Force Fighter Command in England. Credit for the lack of strong Luftwaffe opposition to the amphibious landings in France must be given to Army Air Force fighter groups like the 361st. Their strategic operations forced the Luftwaffe to deploy its fighter assets in Germany for defense of the homeland, where they would have little effect on the battle ground in France.

This photo was taken during Summer 1944, a month or so after D day. On August 12, the lead aircraft, "Lou IV," being flown by 361st Group CO,

Colonel Thomas Christian, was destroyed, killing Col. Christian. Invading Hitler's Fortress Europe was not easy, nor was it without cost.

VCS-7, Seagulls to Spitfires

Naval Aviation's mission on 6 June was to provide air spotting support for the cruisers and battleships bombarding targets along the Normandy beachhead.

For this purpose, each vessel normally carried several aviators and two or three floatplanes, either SOC *Seagulls* or OS2U *Kingfishers*. Both aircraft performed the spotting mission quite well. Operations in the Mediterranean during 1943 had shown, however, that against strong enemy aerial opposition, the SOCs and OS2Us were far too vulnerable. They lacked the speed and maneuverability to escape attacks made by Focke-Wulf 190s and Messerschmitt 109s. In the Mediterranean, efforts were being made to train VCS pilots in the handling of fighters such as the P-40 *Warhawk* and P-51 *Mustang*. Flying fighters, the air spotting pilots stood a much better chance of eluding enemy air attacks.

Perhaps because of the high demand on P-51s for strategic bomber escort duties, it was decided that 17 VCS and Battleship Observation (VO) pilots aboard the cruisers *Quincy* (CA 71), *Tuscaloosa* (CA 37) and *Augusta* (CA 31) and the battleships *Nevada* (BB 36), *Arkansas* (BB 33) and *Texas* (BB 35) would be checked out in RAF *Spitfire* Mk Vbs.

The 67th Tactical Reconnaissance Group, Ninth Air Force, under the command of Colonel George W. Peck, was assigned the task of checking out the VCS-7 aviators in *Spitfires*. Training was conducted at the 67th's base in Middle Wallop, Hampshire. The training syllabus consisted of defensive fighter tactics, aerobatics, navigation, formation flying and spotting procedures.

On 8 May, Lieutenant Robert W. Calland, senior aviator aboard *Nevada*, assumed command of the squadron. He was relieved by Lieutenant Commander William Denton, Jr., senior aviator aboard *Quincy*, on the 28th. That same day, the squadron became fully operational and moved to Royal Naval Air Station (RNAS) Lee-on-Solent.

Ten squadrons, five RAF, four Royal Navy FAA (Fleet Air Arm) and VCS-7, were brought together at Lee-on-Solent to provide air spotting for the fire support ships of the Western and Eastern Naval Task Forces. The Western Naval Task Force, Rear Admiral Alan G. Kirk commanding, would land the U.S. First Army on beaches Utah and Omaha. The Eastern Naval Task Force would land the British Second Army on beaches Gold, Juno and Sword. Two of the RAF squadrons, Nos. 26 and 63, flew *Spitfires*. The other three, Nos. 2, 268 and 414, flew Mustang Is and Ias. The four FAA squadrons, Nos. 808, 897, 885 and 886, were assigned *Seafire IIIs*, basically navalized *Spitfire* Mk Vbs.

On D day, all aircraft were pooled. This meant that VCS-7 flew whatever type was available, either *Seafire* or *Spitfire*. Although *Mustangs* were present, they were not flown by any VCS-7 aviators—the reason being that they had not been checked out in the type.

At noon on D day, the RAF *Mustangs* were withdrawn for tactical reconnaissance duties. This left some 95 aircraft available for air spotting support at RNAS Lee-on-Solent.

Typical spotting missions utilized two aircraft. The lead plane functioned as the spotter. The wingman, or "weaver," provided escort and protected the flight against enemy aerial attack. The clocking, or ship control, method was utilized on the majority of spotting sorties. Standard altitude for spotting missions was 6,000 feet,

80-G-302115

Arkansas (BB 33) aviator Lt. Harris Hammersmith, Jr., nearest the camera in full flight gear, receives instruction for his next spotting sortie. Seated to his right are Maj. Neel East of British Air Intelligence and Augusta (CA 31) aviator Ens. Robert J. Adams.

80-G-302124

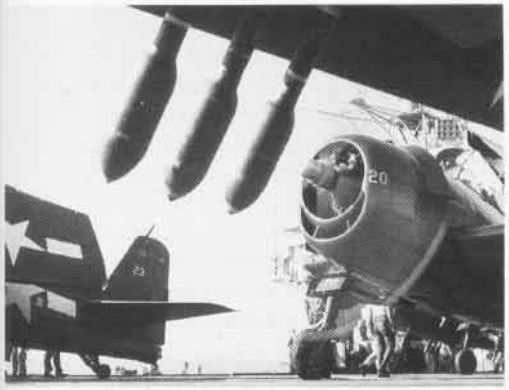
Following a successful air spotting mission, Ltjg. Robert E. Doyle congratulates his wingman, Ens. John F. Mudge. The Spitfire on which Ens. Mudge is standing carries black and white identification bands, or invasion stripes, around its fuselage and wings.

According to one caption, this P-51C Mustang is being flown by a Naval Aviator who was forced to land in southern France by a loose canopy. In August 1944, the 111th Tactical Reconnaissance Squadron took delivery of 10 brand-new P-51C Mustangs for use by the Naval Aviators of VCS-8. It is possible that this aircraft, Val Gal II, was one of those Mustangs.

80-G-302116

Two SOC Seagulls and an OS2U Kingfisher sit at RNAS Lee-on-Solent while their pilots fly Spitfires during Operation Neptune-Overlord, the amphibious invasion of Normandy.

USN 468675



Crewmen aboard Tulagi (CVE 72) prepare VOF-1 Hellcats for combat during the invasion of southern France.

The European Theater of Operations during World War II.

but poor weather forced the spotter to operate between 1,500 and 2,000 feet. Occasionally, missions were flown at even lower altitudes. Drop tanks were used to increase range. A typical spotting sortie lasted close to two hours. This provided 45 minutes on station and 1 hour in transit.

The Luftwaffe was rarely encountered, although six of the station's aircraft were shot down by German fighters. Four VCS-7 pilots were attacked by Me-109s and Fw-190s, putting the fine defensive capabilities of the *Spitfire* to the test. All four aviators successfully avoided being shot down.

Flak, however, was common and accounted for the squadron's only loss, Lieutenant Richard M. Barclay, senior aviator aboard *Tuscaloosa*. Lt. Barclay's wingman, Lieutenant (jg) Charles S. Zinn, also from *Tuscaloosa*, managed to return home despite severe damage to his right wing and aileron.

The exact number of aircraft lost by VCS-7 during the Normandy campaign cannot be verified as of this writing. VCS-7's action report mentions only the loss of Lt. Barclay's aircraft. Author David Brown in his book, *The Seafire, the Spitfire that went to sea*, claims VCS-7 lost 7 aircraft to enemy action and 1 operationally in 209 sorties flown. Unfortunately, Mr. Brown fails to cite the source of his information. According to VCS-7's action report, the squadron flew a total of 191 sorties between 6 and 25 June. The busiest days were the 6th, 7th and 8th. During those three days, a total of 94 sorties were flown.

Following the bombardment of Cherbourg on 26 June, naval gunfire support operations ceased. The fighting had moved inland out of the range of the ships' big guns. VCS-7 was, therefore, disbanded by order of RAdm. Kirk, and all personnel returned to their ships.

During 20 days of combat operations, the aviators of VCS-7 were awarded 9 Distinguished Flying Crosses, 6 Air Medals and 5 Gold Stars in lieu of additional Air Medals. Ten VCS-7 aviators went on to participate in the invasion of southern France and three others took part in the invasions of Iwo Jima and Okinawa in the Pacific during 1945.

VCS-8, Seagulls to Mustangs

As mentioned earlier, operations in the Mediterranean had shown that SOCs and OS2Us were too vulnerable to operate effectively in skies infested with German fighters. An alternative to their use had to be found. Vice Admiral H. Kent Hewitt, Commander, Western Naval Task Force, convened a conference in January of 1944. Representatives of the RAF, FAA, U.S. Navy and staff gunnery officers attended. The purpose of the meeting was to decide which available aircraft would be the most suitable for the air spotting mission. The aircraft chosen was the P-51 *Mustang*. Time did not permit training Navy VCS/VO pilots to fly the P-51 in time for Operation Shingle, the amphibious invasion of Anzio, so the Navy trained Army Air Forces fighter pilots to perform the spotting mission.

Ideally, the Navy needed to train fighter pilots in handling the air spotting mission, and in December the first steps toward this goal were being made. The problem was the urgent demand for fighter-observation pilots in theater.

On 5 January 1944, Commander, Cruiser Division Eight, requested that Commander in Chief, Mediterranean, arrange for the training of four Naval Aviators from *Brooklyn* (CL 40) in high-speed aircraft. The request was approved, and on 15 January the commanding officer of VCS-8, Lieutenant Delwine A. Liane, reported to Berteaux, Algeria, with three other VCS-8 aviators from *Brooklyn* to commence training in P-40 *Warhawks*. In February, aviators from *Philadelphia*'s (CL 41) aviation unit joined those from *Brooklyn*. Fighter training for both vessels' aviation units continued through spring, and in April the Naval Aviators began checking out in P-51 *Mustangs*.

On 21 April, Commander, U.S. Naval Forces, Northwest African Waters, approved the assignment of nine Naval Aviators to the 111th Tactical Reconnaissance Squadron, flying F-6A *Mustangs* (the F-6A was the camera-carrying reconnaissance version of the Allison-engined P-51 *Mustang*). This was the beginning of a four-month association between the 111th and VCS-8. The Naval Aviators continued training in P-51s and soon began flying operational missions in support of the campaign in Italy.

On 15 June, Lieutenant (jg) Harold J. Eckardt of *Brooklyn*'s aviation unit was flying an F-6A on a reconnaissance mission when his leader was shot down by antiaircraft fire. He circled his downed comrade until homing stations could get a fix on his location. Eckardt then continued the mission alone. Poor weather forced him to fly within the effective range of German flak positions and his aircraft was badly damaged. The 111th's war diary recorded Ltjg. Eckardt's return:

"LT.(jg) Eckhardt [*sic*], a Navy pilot, came back from his mission with holes in the scope [scoop] of his plane. Gas and oil were pouring out making LT. Eckhardt a very lucky guy to be back."

For his actions Ltjg. Eckardt was awarded an Army Air Medal.

Late in July, 10 brand-new P-51C *Mustangs* were delivered to the 111th for use exclusively by VCS-8 aviators.

The invasion of southern France began on 15 August, and by 30 August, Commander, Task Force 86, requested that all Naval Aviators assigned to the 111th Tactical Reconnaissance Squadron return to their ships. In all, 11 flyers from VCS-8 participated in combat operations from the cockpits of 111th P-51 *Mustangs*.

VOF-1, Hellcats over France

On 15 December 1943, VOF-1 was established at Naval Air Station, Atlantic City, N.J., Lieutenant Commander William F. "Bush" Bringle commanding. Equipped with Chance Vought F4U *Corsairs*, and later Grumman F6F *Hellcats*, this squadron was the first of its kind in the Navy—a fighter unit trained specifically to perform the air spotting mission in Navy fighter aircraft.

Reporting to the Field Artillery School at Fort Sill, Lawton, Okla., on 6 April 1944, VOF-1 was given extensive training in artillery spotting. The squadron employed an air spotting system in which the aviator instructed the gun crew when and where to fire. He also made the adjustments on the target. The Naval Aviators first tested this system from the back seat of Army L-4 *Grasshoppers* (Piper *Cubs*) and then began using the system from the cockpits of their *Hellcats*. The system worked and was utilized in operations over southern France.

VOF-1 began trading in its F6F-3s for new F6F-5s on 16 June. Twenty-eight of the new *Hellcats* were received, and on the 29th the squadron embarked aboard *Tulagi* (CVE 72) bound for the Mediterranean Sea.

Plans for Operation Anvil-Dragoon, the invasion of southern France, called for two Navy escort carriers, *Tulagi* and *Kasaan Bay* (CVE 69), to form Task Group 88.2 under command of Rear Admiral Calvin T. Durgin. *Tulagi* and *Kasaan Bay* joined seven Royal Navy baby flattops, forming Task Force 88. The carriers would supply aircraft for close air support and air spotting for naval bombardment during the amphibious landings which were to commence at 0800 on August 15.

VOF-1 officially entered the war on 15 August at 0602 when *Tulagi* launched several of the squadron's *Hellcats* on a spotting mission for *Philadelphia*. Six more spotting missions were flown during the day before *Tulagi*'s deck was secured after the last flight returned at 1708 hours.

Much to the chagrin of VOF-1's aviators, the Luftwaffe did not vigorously contest the landings. Opportunities to engage in air combat were few, but did occur.

On the 19th at 1701, *Tulagi* launched four VOF-1 *Hellcats* on a tactical reconnaissance mission to the Rhone River, between the cities of Valence and Lyon. The flight consisted of the XO, Lieutenant Commander John H. Sandor, Lieutenant Rene E. Poucel and Ensigns David E. Robinson and Archie R. Wood.

At 1815, two Heinkel He-111 tactical bombers were sighted north of Vienne, heading south at low altitude. Realizing they had been seen, the Heinkels split, one heading north, the other heading south. Lt. Poucel and Ens. Wood bracketed the northbound plane, with Poucel making the first run. The He-111 began to smoke. Ens. Wood then dove in from six o'clock high and continued firing until the aircraft burst into flames and crashed.

LCdr. Sandor and Ens. Robinson, meanwhile, jumped the southbound plane. Commencing a modified

Nazi swastikas appear in an area normally reserved for Japanese rising suns. Ltjg. Edward W. Olszewski, left, and Ens. Archie R. Wood kneel on the wing of the Hellcat they flew to account for four of six German aircraft destroyed by VOF-1 during Operation Anvil-Dragoon.

high-side run from the three o'clock position, Robinson scored hits along the He-111's fuselage and starboard engine. The stricken aircraft started down and crashed into a field.

The flight reformed and continued its reconnaissance of the area, heading south. Another He-111 was sighted south of Vienne, heading north at low altitude. Ens. Wood peeled off at 2,000 feet and rolled into a firing run, attacking the Heinkel from above and behind. Both engines were set on fire. The aircraft exploded and crashed.

On the way home, the four *Hellcats* swooped over an aerodrome near Montelimar, and Lt. Poucel strafed a Junkers Ju-88 parked in a revetment. Before the marauding *Hellcats* were finished, they managed to locate a locomotive and engaged in the sport of train busting, a favorite past time of Army Air Forces *Mustang* and *Thunderbolt* pilots. In the attack, the locomotive was claimed as destroyed and 10 boxcars were left burning.

Two days later, on the 21st, three Junkers Ju-52 transports were shot down during a fighter-bomber attack on a retreating transport convoy near La Capella. Lieutenant (jg) Edward W. Olszewski accounted for two and Ensign Richard Yentzer claimed the third.

Flak was encountered on nearly every mission and accounted for VOF-1's three losses. Lieutenant David S. Crockett was shot down while spotting over Toulon Harbor on 20 August. He bailed out and was taken prisoner by German troops. He was released on the night of the 23rd when the fort in which he was being held surrendered. He returned to *Tulagi* on the 26th. Lieutenant James M. Alston was shot down on 20 August while attacking a transport convoy five miles north of Carassonne. Lt. Alston successfully evaded capture and was waiting on the docks at Quonset Point, R.I., when VOF-1 returned to the States in September. Lieutenant (jg) John H. Coyne was reported missing in action after he failed to return from an attack on a transport convoy northwest of Nimes on 21 August. He managed to bail out, and his parachute was seen opening at extremely low altitude; however, he did not survive his fall.

During operations in support of Anvil-Dragoon, VOF-1 aviators flew a total of 122 missions, consisting of 74 combat air patrol sorties, 96 air spotting sorties and 238 fighter-bomber/armed reconnaissance sorties. Six German aircraft were shot down in air combat, 23 locomotives were either damaged or destroyed and 601 motor vehicles were claimed destroyed or damaged. Anvil-Dragoon officially ended on 15 September when the southern invasion force became the U.S. Sixth Army Group.

May 4: A board headed by RAdm. A. W. Radford and known by his name, submitted a report that had a direct effect on aviation planning during the latter part of the war and, with modifications to fit the needs of peacetime, extended its influence long after the war. The Integrated Aeronautic Program for Maintenance, Material and Supply, which evolved from its recommendations, was essentially a plan involving the assignment of new planes to combat units; return of aircraft to the United States for reconditioning and reassignment after specified combat tours; the retirement of second tour aircraft before maintenance became costly; and the support of the aeronautical organization through the use of factors and allowances for pools, pipelines and reconditioning kept realistic by frequent appraisal.

May 13: To distinguish between fixed and rotary wing heavier-than-air craft, the helicopter class designation VH plus a mission letter (i.e., VHO for observation and VHN for training) was abolished and helicopters were established as a separate type designated H. The previous mission letters, thus, became classes designated O, N and R for observation, training and transport, respectively.

May 17: *Saratoga* participated in the carrier air strike of the British Eastern Fleet on the Japanese base at Soerabaja, Java.

May 29: The only U.S. carrier lost in the Atlantic, *Block Island* (CVE 21), was torpedoed and sunk by a German U-boat while engaged in hunter-killer operations in the Azores area.

Jun 1: Airships of ZP-14, assigned to antisubmarine operations around Gibraltar, completed the first crossing of the Atlantic by nonrigid airships.

Jun 4: Off Cape Blanco, Africa, a hunter-killer group (Capt. D. V. Gallery), composed of the escort carrier *Guadalcanal*, with VC-8 aboard, and five destroyer escorts, carried out a determined attack on the German submarine U-505, forcing it to surface. Boats from the destroyer escort *Pillsbury* and the carrier reached the submarine before scuttling charges could accomplish their purpose and the U.S. Navy found itself with a prize of war.

Jun 6: Allied Invasion of Normandy—Cruiser-Scouting Squadron 7, made up of 17 Naval Aviators from aviation units on battleships and cruisers assigned to bombardment duty, operated with units of the British Fleet Air Arm and Royal Air Force, flying gunfire spotting missions in RAF *Spitfires* over the Normandy beaches from D day until D+4.

Jun 29: Carrier Air Groups were standardized for all commands under the following designations: CVBG, large carrier air group; CVG, medium carrier air group; CVLG, light carrier air group; CVEG, escort carrier air group (*Sangamon* class); and VC, escort carrier air group (*Long Island*, *Charger*, *Bogue* and *Casablanca* classes).

Today, as preparations are being made to commemorate the 50th anniversary of the Allied invasion of Normandy, let us not forget any squadrons or units that participated. No matter how small or seemingly insignificant their contributions may have been, each had a role to play in achieving final victory. ■

Mr. Hill is an archives technician in the Aviation History Branch of the Naval Historical Center.

ANA Bimonthly Photo Competition

Left: The winning photo in the bimonthly competition was taken by VF-143's Ltjg. Stephen P. Davis, who captured a squadron F-14 Tomcat dropping a MK-83 bomb over a range near NAS Fallon, Nev., during air wing training. Honorable mention went to PH3 Christopher A. Goyette with his shot of a rainbow over VF-31 F-14Ds on the flight line at NAS Fallon (above); and Lt. Stephen E. Boals of Coronado, Calif., for the photograph below of a VS-38 S-3B Viking over the Grand Canyon.

Cash Awards: Bimonthly – $100; Annual – First, $500; Second, $350; Third, $250.

For deadline and submission details, call (703) 998-7733. Mail photographs to: Association of Naval Aviation Photo Contest, 5205 Leesburg Pike, Suite 200, Falls Church, VA 22041-3863.

The Association of Naval Aviation and its magazine, *Wings of Gold*, is continuing its annual photo contest which began in 1989. Everyone is eligible except the staffs of *Wings of Gold* and *Naval Aviation News*. The ONLY requirement is that the subject matter pertain to Naval Aviation. Submissions can be in black and white or color, slides or prints of any dimension. Please include the photographer's complete name and address, and **PHOTO CAPTION.**

Awards

The following are the FY-93 winners of the **CNO Aviation Safety Awards**:

ComNavAirLant: VA-36; VFs 43 and 84; VFA-83; VP-10; VQ-2; HC-10, HS-7; HSLs 32 and 42 (second consecutive year).

ComNavAirPac: VA-52; VAQs 138 and 141; VAW-117; VF-154; VFAs 113 (third consecutive year) and 127; VP-4; VRC-50; VSs 29 and 41; HC-11; HSs 6 (second consecutive year) and 14 (second consecutive year); HSLs 33 (second consecutive year) and 45 (second consecutive year).

ComMarForLant: HMH-362 (second consecutive year); HMLA-167 (second consecutive year); HMM-264; VMA-542 (second consecutive year); VMFAs 312 (second consecutive year) and 451; SOES MCAS Cherry Point, N.C.

ComMarForPac: HMLA-169; HMMs 164 (second consecutive year) and 364; VMA-214; VMFA-314; VMFAT-101 (second consecutive year); VMGR-152 (second consecutive year); and SOMS Kaneohe Bay, Hawaii.

ComNavAirResFor: VAQ-309; VF-301 (third consecutive year); VFA-204: VFC-13; VPs 90 and 93; VR-56; HCS-5; and HS-75.

CG 4th MAW: VMGR-452 and HMM-764 (second consecutive year).

CNATra: VTs 2, 7, 10, 23 and 31 (second consecutive year); and HT-8 (third consecutive year).

ComNavAirSysCom: NavAirWarCenWpnDiv, China Lake, Calif.

The winners of the 1993 **Readiness through Safety Award** are ComNavAirSysCom and CNATra.

CNATra received the **Adm. James S. Russell Aviation Flight Safety Award** for 1993.

The first annual **R. G. Smith Award** for excellence in the field of Naval Aviation art is being awarded to R. G. Smith himself during the 8th Annual Naval Aviation Symposium 5-6 May in Pensacola, Fla. The award, which includes a cash award and round trip transportation to the presentation for the annual winner, is sponsored in the form of an endowment by McDonnell Douglas Corporation with whom Mr. Smith was employed as an engineer for many years.

VFA-151 received the 1993 **Ltjg. Bruce Carrier Award** for the FA-18 squadron with the most outstanding maintenance department.

LCdr. Kevin Johnson, VFA-81, received the **LCdr. Michael G. Hoff Attack Aviator of the Year Award** for Naval Air Force, U.S. Atlantic Fleet.

Anniversary

A **75th Anniversary** commemoration of the first transatlantic flight of the NC-4 took place 26 February at the National Museum of Naval Aviation, Pensacola, Fla. Family members of the crewmen of that early flight—the daughter-in-law of Glenn Curtiss ("father" of the aerial flying boat), Mrs. Glenn Curtiss, Jr.; the son of Admiral John Towers (pilot in command of NC-1), Mr. Charles Towers; and the daughter of Rear Admiral A. C. Read (pilot of NC-4), Mrs. Charles Cunningham—were in attendance along with other dignitaries.

Honing the Edge

On 2 February, the U.S. Air Force selected **NADep Cherry Point, N.C.,** as the depot maintenance site for the MH-53J and TH-53A helicopters. The first aircraft is tentatively scheduled to arrive in Summer 1994. The Air Force's selection will establish Cherry Point as the only depot maintenance activity for all type/model/series H-53s. This is particularly important because each MH-53J is classified as a combat critical aircraft, or "core," that is to be maintained by the Department of Defense to ensure support.

VFs 14 and 41 sent two jets and four aircrews to MAWTS-1 in Yuma, Ariz., to participate in the Weapons and Tactics Instructor School. The six-week course, held twice a year, is used by the Marine Corps to groom its aviation training officers so that they can return to their respective squadrons and run aircrew training programs. The school emphasizes air-to-ground mission training; the F-14 has recently assumed this role.

HC-6 received the oldest H-46D *Sea Knight* in the naval inventory, BuNo 150271, during a ceremony at NAS Norfolk, Va., 1 December 1993. Having previously surpassed its service life limit of 10,000 flight hours, aircraft 271 returned to the fleet freshly overhauled with an additional 2,500 flight hours. The overhauling was accomplished at NADep, Cherry Point, N.C.

Rescues

A CH-46 *Sea Knight* of **HC-6** based at NAS Norfolk, Va., plucked a Spanish woman from the sea during a winter gale. HC-6 was on board the ammunition ship *Butte* (AE 27) on its way to Rota, Spain, for turnover when the incident took place in January.

Butte was transiting south of the Spanish Balearic Islands when it intercepted a distress call from a woman alone on a 33-foot sailboat. She had no knowledge of sailing and a gale was brewing. She was sailing with a male friend aboard, but he was washed overboard an hour earlier and she had been trying to contact the Span-

ish coast guard since he disappeared.

The HC-6 helo launched when *Butte* lookouts spotted the wildly pitching sailboat. As the aircraft maneuvered overhead, the woman was told by radio to jump into the sea, because the helicopter's crew wouldn't be able to rescue her from the rolling boat. Less than 15 seconds later, the woman was recovered and hoisted to the hovering aircraft. A three-hour search for her companion proved futile.

Records

Several units marked **safe flying time:**

Unit	Hours	Years
HS-3	43,000	12
HS-85	42,000	19
HSL-43	75,000	
HSL-48	30,000	
NAS Norfolk	35,098	12
VAW-121	51,700	27
VF-154	34,000	9
VF-301	70,000	23
VFA-113	86,324	19
VFA-127	27,000	
VFA-204	48,815	12
VP-46	213,840	30
VRC-40	43,767	10
VT-23	20,000	

Special Records

Cdr. Rick Bush, CO, **LCdr. Mare Greenway** and **AW1 David Simpson**, HS-12, each surpassed 3,000 hours in the SH-3 *Sea King*.

Cdr. Greg Ingles, CO, VF-126, compiled more than 4,000 flight hours in Navy and Marine Corps aircraft.

Cdr. Dave Maxwell, CO, VFA-195, flew an FA-18 *Hornet* on board *Independence* (CV 62) for his 1,000th carrier arrested landing.

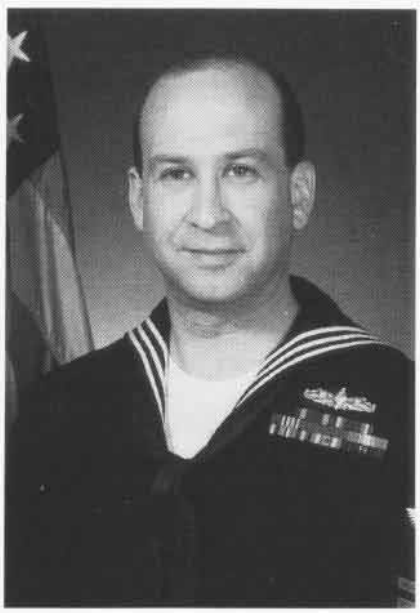
AW1 Thomas Yeaton, VP-23, completed 5,000 flight hours.

Kudo

JO1(SW) Eric S. Sesit Assistant Editor of *Naval Aviation News* received the Naval Historical Center's 1994 Sailor of the Year Award. He is the first from the Naval Aviation News Branch to receive this honor.

JO1 Sesit reported to the Naval Historical Center in June 1991 and in addition to serving as assistant editor of *NANews*, he is the command photographer and the command career counselor. He was advanced to First Class Petty Officer in July 1992.

During his career, Eric has been awarded the Navy Achievement Medal, Navy Unit Commendation, Meritorious Unit Commendation, Good Conduct Medal, National Defense Service Medal, Armed Forces Expeditionary Medal, Sea Service Deployment Ribbon (with a bronze star) and Pistol Sharpshooter Ribbon. He qualified as an Enlisted Surface Warfare Specialist on board *Bunker Hill* (CG 52).



JO1 Sesit is the son of Bert and Annette Sesit of Florence, S.C. Eric and his wife, Janet, live in Waldorf, Md., with their daughter, Jessica. He has two other children, Michal Lea and William Dane, who live in Florence.

Scan Pattern

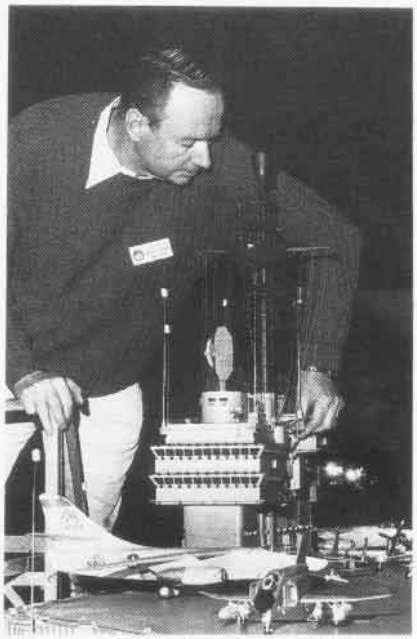
Capt. Edwin V. Odisho II, an instructor pilot at VMGRT-253, MCAS Cherry Point, N.C., was selected to attend USAF Test Pilot School at Edwards AFB, Calif. Capt. Odisho is the first Marine maritime pipeline-trained aviator selected for Air Force School. He will report for class 94B at Edwards AFB following jet training at NAS Kingsville, Texas, in July.

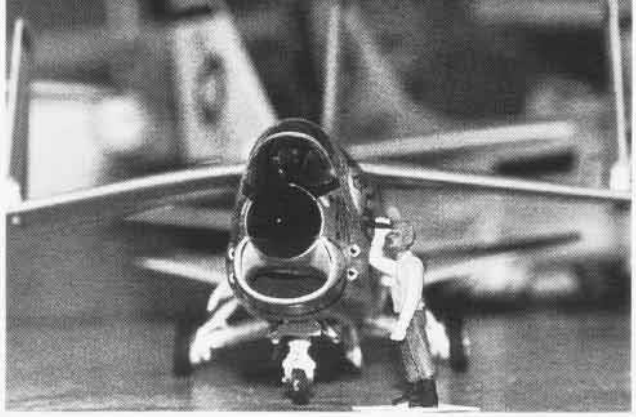
A historic WW II aircraft arrived this year at the National Museum of Naval Aviation, Pensacola, Fla. The aircraft, a **Douglas SBD-2** *Dauntless* dive-bomber, was recovered from Lake Michigan. While on a training mission in June 1943, Marine aviator Donald A. Douglas ditched the *Dauntless* in the lake, where it rested on the bottom in fresh water for almost 50 years. (See story in *NANews*, Jul-Aug 94.)

SBD-2 BuNo 2106.

Clyde E. Lassen, 52, the only Navy helicopter pilot Medal of Honor winner during the Vietnam War, died 1 April of cancer. Cdr. Lassen received the award for the daring rescue of two Naval Aviators downed behind enemy lines on 19 June 1968.

JO1(SW) Eric Sesit





Volunteer modelers provided accurate aircraft models and figures for the Washington Navy Yard Museum's 1/48th scale model of Forrestal (CV 59). The project was sponsored by the National Capital Model Soldiers Society and the Northern Virginia and D.C. chapters of the International Plastic Modelers Society. Steve Hill, an archives technician in the Aviation History Branch of the Naval Historical Center, provided historical information to the modelers in their research for accurate aircraft markings and bureau numbers. The modelers referred to an October 1967 article in Naval Aviation News magazine for proper placement of the aircraft. Here, Joe Bles places a miniature sailor on "vulture's row," used for aircraft spotting from the carrier's island superstructure.

Change of Command

AIRLANT: VAdm. Richard Allen relieved VAdm. Tony Less, 18 Mar.

CARGRU 6: RAdm. Michael L. Bowman relieved RAdm. Arthur K. Cebrowski, 24 Mar.

FAIRWESTPAC: Capt. Richard H. DeJaegher relieved RAdm. Steven R. Briggs, 3 Mar.

HC-2: Cdr. Woodrow W. Long, Jr., relieved Cdr. Roy A. Merrill III, 3 Dec.

HC-11: Cdr. Richard Weyrick relieved Cdr. Peter A. Cornell, 27 Jan.

HM-18: Cdr. Jon M. Haas relieved Cdr. Max E. Kalafat.

HMH-466: Lt.Col. Ronald A. Berube relieved Lt. Col. John M. Metterle, 15 Mar.

HMM-265: Lt. Col. Stanley Hitchcock relieved Lt. Col. Roger T. Farmer, 11 Feb.

HS-3: Cdr. James Thompson relieved Cdr. Gerald Faber, 27 Jan.

HS-8: Cdr. Henry E. Dosker, Jr., relieved Cdr. Lars A. Wallis, 16 Dec.

HS-75: Cdr. R. Kenneth Crim relieved Cdr. Thomas J. Henderson, 5 Mar.

HSL-41: Cdr. Gregory W. Hoffman relieved Cdr. Edward J. Quirk, 6 Jan.

HSL-47: Cdr. Ian P. Fetterman relieved Cdr. Michael N. Wellman, 10 Feb.

HT-18: Cdr. C. Duane Heughan relieved Cdr. Michael A. Coulman, 11 Mar.

NAS Whidbey Island: Capt. John F. Schork relieved Capt. Robert R. Penfold, 21 Jan.

VAQ-129: Cdr. Thomas P. Lane relieved Cdr. Richard C. Perkins, 7 Jan.

VAQ-135: Cdr. Edward J. Hafner relieved Cdr. George L. Wood, 17 Feb.

VAQ-131: Cdr. J. Stephen Hoefel relieved Cdr. Justin L. Wallace, 23 Mar.

VAQ-136: Cdr. Jerome J. Mathews relieved Cdr. Larry J. Stack, 20 Dec 93.

VAW-117: Cdr. "Tex" Keuhlen relieved Cdr. "J.C." Tellefson, 31 Mar.

VC-6: Cdr. W. David Place relieved Cdr. Mark S. Rindler, 14 Jan.

VF-11: Cdr. Michael D. Crisp relieved Cdr. Bruce W. Clingan, 4 Feb.

VF-21: Cdr. Kenneth L. Ginader relieved Cdr. Stan O'Conner, 4 Mar.

VF-74: Cdr. J. J. Morrow relieved Cdr. C. S. Sayers, 20 Jan.

VF-84: Cdr. Brad Goetsch relieved Cdr. John Stufflebeem, 14 Jan.

VF-101: Cdr. Charles Wyatt relieved Capt. Christ Wuethrich, 4 Feb.

VFA-25: Cdr. Joe Kleefisch relieved Cdr. Carl Simmons, 7 Feb.

VFA-27: Cdr. D. C. Knutson relieved Cdr. T. N. Vaughn, 10 Jan.

VFA-37: Cdr. John S. Hoffman relieved Richard O'Hanlon, 18 Nov 93.

VFA-81: Cdr. Pat B. O'Keefe relieved Cdr. Dan E. Moore, 15 Dec 93.

VFA-94: Cdr. J. S. Ashby relieved Cdr. J. W. Goodwin, 13 Dec 93.

VFA-97: Cdr. Ernie Wattam relieved Cdr. Kevin J. Thomas, 1 Oct 93.

VFA-125: Cdr. Joseph J. Capalbo relieved Cdr. Steven D. Davis, 7 Jan.

VFA-131: Cdr. Richard L. Thayer relieved Cdr. Michael T. Ramirez, 17 Mar.

VFA-137: Cdr. Anthony L. Kiggins relieved Cdr. Michael R. Groothousen, 20 Jan.

VFA-203: Cdr. Gary Hogan relieved Cdr. Dale Lewelling, 26 Mar.

VFA-303: Cdr. J. L. Schram relieved Cdr. R. J. Smeltzer, 8 Jan.

VFA-305: Cdr. Barry E. Rainey relieved Cdr. Steven R. Sewell, 12 Feb.

VMFA-115: Lt. Col. John W. Graham relieved Lt. Col. Madison C. Chisum, 17 Feb.

VMFA-212: Lt. Col. Patrick S. Bole relieved Lt. Col. Timothy F. Ghormley, 25 Feb.

VMFA(AW)-242: Lt. Col. Mark S. Barnhart relieved Lt. Col. Terry G. Robling, 28 Jan.

VMFA(AW)-533: Lt. Col. Martin Post relieved Lt. Col. David R. Rash, 4 Mar.

VP-16: Cdr. "Andy" Andersen relieved Cdr. Christopher C. Ames, 25 Feb.

VP-26: Cdr. R. Bradford Leininger relieved Cdr. Edward F. Lohoski, 25 Mar.

VP-65: Cdr. James J. Lind relieved Cdr. Michael J. Filkins, 8 Jan.

VP-93: Cdr. Chris J. Cluster relieved Cdr. R. A. Carlone, 12 Feb.

VRC-30: Cdr. J. D. Fowler relieved Cdr. David H. Grundies, 28 Jan.

VS-21: Cdr. Dwight L. Cousins relieved Cdr. Bruce R. Krakau, 7 Dec.

VS-27: Cdr. Mark D. Kikta relieved Cdr. Stanton C. Greenawalt, 11 Jan.

VS-29: Cdr. Chuck Smith relieved Cdr. Chris Owens, 7 Apr.

VS-31: Cdr. Gregory H. Cooper relieved Cdr. William H. Carey, 24 Feb.

VS-37: Cdr. James P. Kelly relieved Cdr. Terry L. Walstrom, 6 Jan.

VS-38: Cdr. John R. Warnecke relieved Cdr. David L. Logsdon, 27 Jan.

VT-10: Cdr. Albert J. Gallardo relieved Cdr. Tony Rigazzi, 31 Mar.

Cdr. Peter Mersky, USNR (Ret.)

Sakaida, Henry. *Pacific Air Combat WW II: Voice from the Past.* PHALANX Publishing Co., Ltd., 1051 Marie Ave., St. Paul, MN 55118. 1993. 94 pp. Ill. $14.95.

A fascinating paperbound book from a growing new publisher, this volume is a collection of stories of aerial combat in the Pacific involving Japanese and Allied aircrews and various types of aircraft, some rarely included in such accounts.

The author wrote *Winged Samurai* (Champlin Press), a biography of Saburo Sakai—the highest-scoring Japanese ace to survive the war—and the *Zero* pilots of the early war. This latest effort is a good companion. There are photos, both official and personal, of Japanese aces and American and other Allied pilots and crewmen. The stories are also filled with intimate details and show a different side of the war as they relate the experiences of Japanese pilots fighting B-29s, P-40s, F6Fs and F4Us, flown by American Army and Navy crews as well as aviators from New Zealand and the "Flying Tigers."

Cowley, Robert, ed. *Experience of War.* Dell Publishing Co., 1540 Broadway, New York, NY 10036. 1993. 592 pp. $14.95.

This paperback is a collection of articles and essays that have appeared in *Military History Quarterly.* It should be in every *serious* historian's library, but it's not for the casual reader. There are no photographs in the nearly 600 pages and reading sometimes becomes tedious.

Originally coming from one of the premier, though occasionally esoteric, periodicals that deal with military interest, these stories treat many periods of warfare and military operations; however, the collection is decidedly unbalanced.

Eleven articles—more than 20 percent—deal with WW II, while there are only two stories about Vietnam, one on the Persian Gulf War of 1991 and, incredibly, none on Korea. Several cover ancient wars and arms development, while five discuss aspects of the Civil War. There is also nothing on the Falklands Conflict, the first war of the current era, and only three articles that deal specifically with aviation.

Considering all the coverage of WW II, there is nothing on the Allied bombing offensive over Germany, nothing about Marine Corps operations in the Pacific or carrier operations anywhere.

With these reservations, the collection does have some very fine moments, along with sparkling writing and research by several renowned military authors. The story "First Strike" is a gem, which discusses the opening air strike by the Israeli air force in 1967 against Egyptian air bases. Other intriguing essays include Tom Allen's "Twilight Zone at the Pentagon"; "Thats Ocay XX Time Is on Our Side" by Geoffrey Norman, a poignant, humorously tough account of how American POWs used the tap code to survive in North Vietnamese prisons; and "The Tragedy of Unconditional Surrender" by Charles Strozier, who talks about what the term meant to different factions in WW II. There are also fascinating accounts by German and Russian combatants that will give important views from rarely seen participants.

Tillman, Barrett. *Sun Downers: VF-11 in World War II.* PHALANX Publishing Co., Ltd., 1051 Marie Ave., St. Paul, MN 55118. 1993. 48 pp. $12.95.

This author needs no introduction to readers of this column. Occasionally, he enjoys a detour from larger works into what has come to be called a "monograph," a shorter, usually paperbound book on a single subject. Tillman has always been interested in the VF-11 story and he has finally told it, at least as far as operations in WW II are concerned. (He does indicate postwar service in Korea and Vietnam, but just barely. As VF-111, the squadron was one of only a few Navy units that shot down MiGs in Vietnam using two different aircraft, the F-8 and F-4.)

Well illustrated with personal and archival photos—including two fine color aircraft profiles by John Valo—and five appendices, *Sun Downers* is a light read that should then be filed away in an easily remembered place for later research.

Mikesh, Robert C. *Broken Wings of the Samurai: The Destruction of the Japanese Air Force.* U.S. Naval Institute, Annapolis, MD 21402. 199 pp. Ill. $34.95.

One of the more unusual volumes to appear in recent years, this book gives the reader several hours of pleasant browsing, as well as many interesting details of just what happened to one of the world's largest—and at one point most successful—combat air forces of the 1940s. The author is well known for his work at the National Air and Space Museum and as an authority on Far Eastern aviation.

It's sad to reflect that very little remains of the large number of aircraft selected and sent to the U.S. after the war for evaluation. A few found their way to the Smithsonian and other collections, where they wait, nearly 50 years now, on future restoration. I saw the floatplane fighter, code-named "Rex," languishing forlornly inside the wire fence at Willow Grove in the early 1970s. It still rests at the Pennsylvania naval air station, outside and unprotected.

Mr. Mikesh takes us through a time warp as he shows us an incredible collection of end-of-war piles of planes. Many are in various stages of decay, sans propellers, control surfaces or cockpit canopies. But the shapes and technology are all there, supplemented by a knowledgeably written text. One of the prize shots is on page 102, showing a line-up of Kawanishi "George" fighters—the premier Imperial Navy fighters of the late war—with **U.S.** insignia and **Japanese** pilots preparing to ferry the planes to Yokosuka for evaluation.

An end chapter details the service of Japanese planes in other countries after the war, particularly China, Thailand and Indonesia.

After spending time with this book, one has to ask: Couldn't someone in authority have been far-sighted enough to preserve even one example of a Ki.44 or H6K? Couldn't one graceful "Frances" or "Dinah" have been kept from the smelters? The mind boggles at the opportunities lost in the year after the war.

VCS-7 Oral Histories

The Eisenhower Center at the University of New Orleans is seeking oral histories from Naval Aviators of VCS-7 who participated in the Normandy invasion during WW II. Please contact Mr. Clem Unangst, 1758 Pressburg St., New Orleans, LA 70122, 504-288-6625.

Isolation of Rabaul

I certainly enjoyed John Elliott's article in your Nov-Dec 93 issue, "The Isolation of Rabaul"; however, it was noted on page 28 that all Japanese aircraft were withdrawn from Rabaul to Truk on 17 Feb 44. Actually, a special recce flight of 4 Marine *Corsairs* (one of which aborted shortly after departure) and 4 Navy *Hellcats* scrambled at 1500 on 3 Mar 44 from Bougainville Island. As CO of VMF-223, I was the flight leader. Our mission was to locate any Japanese aircraft airborne from Rabaul and then to attack them. We did meet and engage a flight of 6-7 Japanese fighters, apparently catching them completely unaware. I shot down their lead aircraft in flames. Other members of my flight got credit for a "probable" and damaged one or two more. I have a copy of the official VMF-223 war diary, which logs the action. I do not know if this engagement was the final airborne contest over Rabaul, but it is certain that very little air-to-air action ensued in the Rabaul area thereafter.

Lt. Gen. Robert P. Keller, USMC (Ret.)
1055 Harbourview Circle
Pensacola, FL 32507

50 Years of AirLant

I enjoyed LCdr. Mark Nickelson's article, "50 Years of AirLant," in your Jan-Feb 94 issue. I was surprised that no mention was made of the part played by Navy airships that served in the Atlantic from Nova Scotia to Brazil, the Gulf of Mexico, Caribbean and Mediterranean areas. Reference was made to facilities that existed at Weeksville, N.C., and Glynco, Ga., but it was not noted that these were exclusive airship stations. No mention was made of the permanent airship stations at South Weymouth, Mass.; Lakehurst, N.J.; Richmond, Fla.; Houma, La.; Hitchcock, Texas; and the countless auxiliary stations along the Atlantic, Gulf of Mexico, Caribbean, Central and South American coast lines and in the North African, southern European and Mediterranean areas. Some mention should be made of the airships and their crews who performed in operations against the U-boat and convoy escort and patrol roles.

James R. Shock
11104 Racine Avenue
Warren, MI 48093

For the sake of historical accuracy, there is an error in "50 Years of AirLant." On page 24, first column, second paragraph: Cdr. James H. Flatley, Jr., was the first CAG for Carrier Group 5, not 8.

Mike Weeks
2693 San Pablo Way
Duarte, CA 91010-2346

Leuhrs Memorial Award

Your Jan-Feb 94 issue contained an error on page 36 in "People–Planes–Places." You noted Lt. Kris M. Belland's receiving the Luehrs Memorial Award as Naval Flight Surgeon of the Year and stated the award is sponsored by the American Osteopathic Association. In fact, the award is sponsored by the Society of U.S. Naval Flight Surgeons and presented annually to the Operational Flight Surgeon of the Year, in memory of Capt. Richard E. Luehrs, MC, USN. Capt. Luehrs had a distinguished career spanning more than 30 years, including tours as flight surgeon of the *Blue Angels*, wing surgeon of the 1st Marine Aircraft Wing deployed to Vietnam and 10 tours aboard aircraft carriers in both the Atlantic and Pacific fleets. Capt. Luehrs is one of the giants of Naval Aviation medicine. The society was delighted to recognize Lt. Belland's truly outstanding performance in support of Naval Aviation.

LCdr. Glenn Merchant, MC, USN
Society of U.S. Naval Flight Surgeons
P.O. Box 33008
NAS Pensacola, FL 32508-3008

Correction

Mar-Apr 94, p. 33, "Birthday": Instead of LCdr. Poyntz, we inadvertently ran a photo of Naval Aviator No. 1149, John Woods Harris, Jr., who turned 100 years old 23 September 1993 and still conducts business every day from his office in Galveston, Texas. Our apologies to both gentlemen.

Reunions, Conferences, etc.

Flight instructors, Ellyson Field, Pensacola, FL (1944-45) possible reunion,. POC: LCdr. Nelson Samson, 15211 Spring Water, San Antonio, TX 78247.

Kenneth Whiting (AV 14) reunion, 6-8 MAY, Tacoma, WA. POC: Phil Kuchan, 1033 Sunrise Ln., Fircrest, WA 98466-5867, 800-917-9777.

Former Top Gun instructors 25th anniv. reunion, 13-14 MAY, San Diego, CA. POC: Top Gun, DSN 577-4921 or 619-537-4921.

Bataan (CVL 29) WW II/Korea reunion, 18-22 MAY, Kissimmee, FL. POC: Sando Cosenza, 507 Carsonia Ave., Reading, PA 19606-1520, 215-779-7175.

Tomcat Ball, 21 MAY, San Diego, CA. POC: Lt. Bill Daly, POB 45214, San Diego, CA 92145, 619-537-6227.

Guadalcanal (CVE 60) Task Group 22.3 Assoc. 50th anniv. capture of U-505 reunion, JUNE, Chicago, IL. POC: Jack Dutton, 35 Graeler Dr., St. Louis, MO 63146-4938, 314-567-3919.

Card (CVE 11)/VC-1/9/8/12/55 reunion, 2-5 JUN, Duluth, MN. POC: Joe Macchia, Box 1369, Melrose, FL 32666, 904-473-3371.

Assn. FMF Combat Medical Personnel reunion, 2-6 JUN, Colorado Springs, CO. POC: Box 711, Encinitas, CA 92023, 619-753-5602.

VF-161 reunion, 10-12 JUN, St. Louis, MO. POC: Martin Luckey, 805-984-7672.

Long Island (CVE 1/VS-201 reunion, 14-16 JUN, Boston, MA. POC: J. Muzzioli, 84 Little Nahant, Nahant, MA 01908, 617-581-1124.

VMFA-451 reunion, 17-19 JUN, Beaufort, SC. POC: Capts. Dwight Schmidt or Duane Pinney, DSN 832-7363 or 803-522-7363.

VF-43 reunion/disestablishment, 22-24 JUN, NAS Oceana, VA. POC: Lts. Crane and Anderson, DSN 433-5482 or 804-433-5482.

VC-61/VCP-63/VFP-63 reunion, 24-25 JUN, NAS Miramar, CA. POC: Mike Wilson, 625 Bon Air Pl., LaJolla, CA 92037-6190, 619-454-3449.

VF-53/141 reunion, JULY, Las Vegas, NV. POC: Harold Dolin, 9646 Hamilton Hills Dr., Fishers, IN 46038, 317-849-0218.

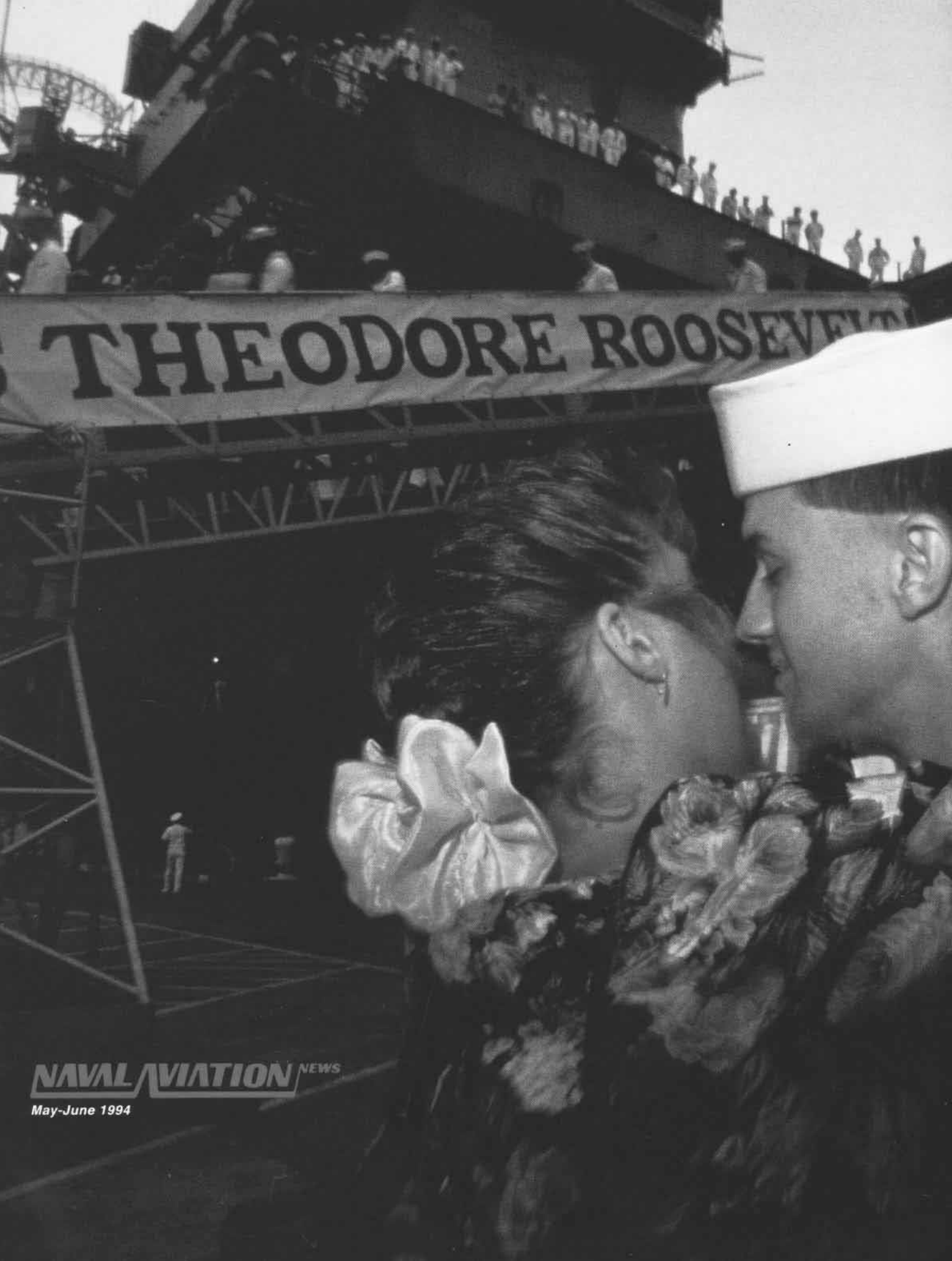
Independence CVA/CV 62 reunion, 6-10 JUL, Las Vegas, NV. POC: Denis Bagley, 12 Trenton Ave., Edison, NJ 08817, 908-819-0359.

U.S. Air and Trade Show, 20-24 JUL, Dayton International Airport, OH. POC: 800-848-3699.

VA-35 60th anniv. reunion, 22-24 JUL, Norfolk, VA. POC: VA-35, Unit 60112, FPO AE 09504-6206.

VC-5 reunion, 28-30 JUL, Reno, NV. POC: Don Baumer, 407 Mills Ct., Benicia, CA 94510, 707-746-8834.

VMA-225 (Vietnam) reunion, 29-31 JUL, Green Bay, WI. POC: Marty Halpin, 35 Pintail Rd., Irvington, NY 10533.



NAVAL AVIATION NEWS
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